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Third Annual Convention

of the

New York State

Waterways Association



Watertown, N. Y.

September 19 and 20, 1912

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Third Annual Convention
OF THE
New York State
Waterways Association



WATERTOWN, N. Y.
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EXECUTIVE COMMITTEE
of the
NEW YORK STATE WATERWAYS ASSOCIATION.

President,
Henry W. Hill..... 511 Mutual Life Bldg., Buffalo

1st Vice-President,
John D. Kernan..... Utica

2nd Vice-President,
Henry A. Myer..... 2509 Newkirk Ave., Brooklyn

3rd Vice-President,
George H. Cobb..... Watertown

Treasurer,
Olin J. Stephens..... 138th St. & Mott Haven Canal, New York
City

Secretary,
Frank S. Ellsworth..... 5 S. Water St., Rochester

Hon. George Clinton, Chairman... 1012 Prudential Bldg., Buffalo
Henry C. Allen..... City Hall, Syracuse
George F. Argetsinger..... 25 North Washington St., Rochester
Miles Ayrault..... Tonawanda
Joseph H. Bailey..... Patchogue, L. I.
Frank Brainard..... 203 Broadway, New York City
Celestin C. Burns..... Watertown
Frederick W. Cameron..... Albany
Maurice E. Connelly..... President, Borough of Queens, New York
Patrick W. Cullinan..... Oswego
E. A. Des Marets..... College Point, New York City
E. W. Douglas..... Troy
T. Harvey Ferris..... Utica
Edwin A. Fisher..... City Hall, Rochester
Frank S. Gardner..... 203 Broadway, New York City
W. H. Gratwick..... 821 Fidelity Bldg., Buffalo
L. B. Greene..... Patchogue, L. I.
Howard D. Hadley..... Plattsburgh
James T. Hoile..... 198 Montague St., Brooklyn
James T. Hutchings..... 34 Clinton Ave., North, Rochester
A. H. Jagers..... 47 West 34th St., New York City
Louis Jaeger..... Greenport, L. I.
William B. Jones..... Chamber of Commerce, Albany
A. R. Kessinger..... Rome
Nelson B. Killmer..... 395 State St., Brooklyn
Richard M. McCann..... 150 Nassau St., New York City
Robert J. McFarland..... 900 St. Mark's Ave., Brooklyn

S. Christy Mead.....64 Lafayette St., New York City
 Edward F. Murray.....Troy
 John R. Myers.....Rouse's Point
 Lewis Nixon.....203 Broadway, New York City
 Frank S. Oakes.....Cattaraugus
 Charles E. Reid.....138th St. and Third Ave., New York City
 William J. Roche.....207-208 Times Bldg., Troy
 Robert H. Rogers.....General Electric Co., Schenectady
 Samuel Sanders.....Dakota Ave., Richmond Hill, L. I.
 Thomas Spratt.....Ogdensburg
 E. Platt Stratton.....Flushing, L. I.
 Edward R. Taylor.....Penn Yan
 Dell L. Tuttle.....914-920 Prudential Bldg., Buffalo
 George W. Wilson.....459 East 28th St., Brooklyn
 Walter C. Witherbee.....Port Henry
 Edward N. McKinney.....Chamber of Commerce, Albany

Committee on Annual Report: President Henry W. Hill, chairman; Treasurer Olin J. Stephens and Secretary Frank S. Ellsworth.

Committee on American Society of Civil Engineers: John C. Parker, Rochester, chairman; Edward A. Bond, Albany; George A. Ricker, Buffalo.

Committee on Hearing Before Rivers and Harbors Committee of the House of Representatives: Judge Charles F. McLean, New York, chairman; Charles E. Reid, New York; Frank S. Gardner, New York; Maurice E. Connelly, Queens; Cornelius F. Burns, Troy; Dell L. Tuttle, Buffalo; Howard D. Hadley, Plattsburgh; James T. Hutchings, Rochester; John R. Myers, Rouse's Point; Olin J. Stephens, New York; Peter G. Ten Eyck, Albany.

Committee on Legislation: William J. Roche, Troy, chairman; Lewis Nixon, New York; Frank S. Gardner, New York; George Clinton, Buffalo; John D. Kernan, Utica.

Committee on Canal Referendum Legislation: George Clinton, Buffalo, chairman; George H. Cobb, Watertown; John D. Kernan, Utica; Nelson B. Killmer, Brooklyn; Frederick W. Cameron, Albany.

Third Annual Convention

of the

New York State Waterways Association

Black River Valley Club, Watertown, N. Y., September 19 and 20, 1912.

Wednesday, September 19, 1912.

Morning Session.

Hon. Henry W. Hill, Buffalo, President of the Association, called the convention to order at 10:43 o'clock.

Rev. Harry Westbrook Reed, pastor, All Souls Universalist Church, Watertown, pronounced the invocation.

Upon motion of James T. Hoile, Brooklyn, Frank S. Ellsworth, Rochester, and Charles E. Reid, New York, were elected secretaries of the convention, vice Roland B. Woodward, Rochester, Secretary of the Association, absent because of illness in his family, and at once assumed the duties of the office.

President Hill introduced His Honor, Francis M. Hugo, Mayor of Watertown, who extended greetings in behalf of the people of Watertown. Mayor Hugo said:

GREETINGS FROM WATERTOWN.

Mr. President, Delegates, Ladies and Gentlemen: The Committee on Arrangements have introduced a novel feature into this morning's program. They have the greetings from the Mayor but the real speech of welcome is from Senator Cobb. It reminds me of a brandy and soda. The only difference is, you take the ingredients separately. You get the fizz water from me, but the real liquor you get from him.

We are very glad to have you here to-day and appreciate the effort and the sacrifice that you busy men have made by coming here to attend this convention. We know that it was prompted not altogether by the fact that you are personally interested as much as by the fact that you believe that through intelligent effort the possibilities of this State may be made more efficient than they have ever been.

Of course we have our own local problems in Northern New York. There are two that appeal to us more than any other; the first, the question of water storage; and the second, the great problem of canal service; and we appreciate the fact that this meeting is held here where our people can get in touch with your work and know the purposes of your organization. We believe it is not economizing or good public policy to have our streams running to waste four months in the year and empty four months in the year and uniformly full the other four months. We believe it is just as criminal for the State to permit such a condition as for an individual not to use the best efficiency of the stream. We hope the time may come,—we have been patient and we have waited for years to have some plan of commission devised whereby we will get results. Sometimes we have been prompted to say with the Prophet Job, How long? I hope within the next few years we will have some results from the Commission. It has been stimulated by your organization probably more than any other in the State.

We also feel that we are entitled up here to canal service from about Carthage to Lake Ontario, and we believe that you men while here, going over the ground, will get a better appreciation of the problem and will agree with us. You will also learn before you leave here that we are willing to co-operate with any other section of the State. We are not selfish in this matter. We voted for the \$101,000,000 largely when it was adopted by the State. We believe in the canal system through the State and we are willing to offer our co-

operation to any scheme or plan which will make for the better canal service of the entire State of New York. (Applause.)

As I have said, I am merely the fizz water; the real *eau de vie* will follow me. I want to say simply that the town is yours as long as you stay here. Stay as long as you like. When you go away all I ask is for you to leave the city in a reasonable state of repair and take away with you pleasant feelings in regard to Watertown and above all a desire to come back again. (Applause.)

PRESIDENT HILL: I now have the pleasure of presenting to you Senator George H. Cobb, who will deliver the Address of Welcome. (Applause.)

ADDRESS OF WELCOME.

SENATOR GEORGE H. COBB, Watertown, said:

Mr. President and Gentlemen of the Convention, Ladies and Gentlemen: You can imagine the predicament I am in. It is not the first time I have followed the Mayor. So that the embarrassment which I feel is not new to me. I happened to be on the program with him last night at the reunion of the veterans and we had an agreement then that he should talk a short time, it would be very brief, I should make the main speech, and then he exhausted every subject relating to patriotism and the service of the 10th and Grand Army affairs that I had ever heard of and then introduced me as the main speaker of the evening. There was a thorough understanding here. I am here simply because I am an officer of this Association and live in this town. This is my home city and it was considered to be the proper thing for me to appear here and welcome you. That is the reason I am on the program.

Mayor Hugo has left out some of his speech of welcome that he usually delivers, and in as much as he has usurped the functions which were assigned to me on the question of water storage and canal extension, I will have to fall back upon some of his speeches of welcome. He usually invites people to take a bath, if they desire, in the public fountain on the Square. We had here last summer some boys who undertook and did go in bathing there, about seventy-five of them, before the police could stop them, in mid-day. Of course it was an amusing spectacle. The Mayor usually extends that courtesy to people. But, seriously, I am very much pleased as an officer of this association to welcome you to our city. The Mayor has uttered words of cordial greeting and I am sure you will all feel that you are indeed welcome within our gates.

We are interested in the subject with which you are interested. We are working together along the same lines, and all that I desire to do and the little that I shall say is to impress upon you that Northern New York is ready and willing to co-operate with the rest of the State in the carrying on and the building up and extension of the waterways of this State. (Applause.)

It is not entirely from a selfish interest that our people are in that attitude. There was a time in this section,—and it was not confined to this section, it prevailed in almost all the agricultural sections of the State,—when the people thought that money expended for canals was a useless waste of the public funds, I might almost say, and were so pronounced about it that they would have determined against any proposition to develop water works. That situation is different to-day in Northern New York as throughout the entire State. It is not necessary to spend any time in argument upon the proposition as to the importance of the development of our waterways.

We have one railroad in this northern section, which is trying to give us good service, but it is entirely inadequate with the development of our agricultural and commercial resources, which are progressing rapidly, entirely inadequate to handle the freight at a price which it can be produced and made profitable to transport. We are interested, as the Mayor has suggested, in water storage and in the canal extension and many other kindred subjects which pertain to them. We believe the extension of the canal, as it was originally planned, from Lake Ontario to Carthage (we hope to have all of you gentlemen visit this section) will not only greatly increase the transportation facilities here but it will of necessity solve the water storage problem as to a larger portion of this section of the country.

I am delighted to have you here. I am pleased to welcome to our city my good friend, your President, Senator Hill, with whom I was associated in the Senate several years. I believe there are but few if any men in the State who have done more consistent work for the extension of waterways and their development than has your President. I am glad to have him here. The people of the city are glad to have you here. We are glad to have you other gentlemen who have long been identified with this work and we recognize in this Association one of the most powerful organizations that exists in the State for the development of the waterways and through them the commercial supremacy of the State.

I will not take further of your time except to say that we hope you will have a pleasant time here and we want you all to be free while here to call upon any of us. Don't wait for a man that you know but ask any of the citizens on the street for anything you desire except money and I am sure it will be furnished you. I thank you very much. (Applause.)

President Hill responded to the greetings and Address of Welcome. With his response President Hill coupled his Annual Report as President of the New York State Waterways Association. President Hill said:

PRESIDENT'S ANNUAL REPORT.

Mayor Hugo, your cordial greetings have at once made us feel that we are welcome guests to your enterprising city. We look forward to a profitable and pleasant sojourn in your midst. We appreciate the efforts of your Chamber of Commerce and of your citizens generally to make this convention a success and to acquaint us with the activities of this territory as well as with the growth and importance of the City of Watertown as an industrial, agricultural and commercial center. Your distinguished citizens, living and dead, have repeatedly called attention to the rightful claims of Northern New York upon the rest of the State and we are assembled in convention to hear, among other things, those claims further exploited as the claims of other parts of the State are also being presented. Your city has many attractions and we are here to see them and to inhale the mountain breezes laden with balsamic fragrance and the ozone wafted from the waters of Lake Ontario and the commerce bearing St. Lawrence on the west and to study the power development of Black River from Carthage to Dexter and the conditions that are said to justify the proposed improvement and extension of the Black River Canal. The members of this Association are the official delegates from the various cities, villages and commercial organizations of the State, and all deeply interested in whatever may tend to promote its agricultural and industrial development as well as its commercial expansion.

Senator Cobb, it is a personal pleasure to us all to be so warmly and gracefully welcomed to your home city and to be the recipients of the hospitality, which you and your committee have provided for us. Your words have touched "the better angels of our nature" and we already feel the warmth of your hospitality and realize that the freedom of your city is ours. In coming to Watertown, we knew we would be among friends of the waterway movement and among co-workers in a common cause for the betterment of the people of the entire State. Your broad and statesmanlike view of all such matters and your activity in this direction through your long and useful public career have made an impression on the advocates of waterways in all parts of the State and we are come to consider various phases of the subject and to get from you and Assemblyman John C. Jones, and others, such suggestions as you may consider pertinent to the matters considered by this Association.

The general purposes of this Association are well expressed in the draft of its proposed constitution. This declaration of principles is so well stated that comment is unnecessary and if adopted, this Association may rightfully claim recognition and support from all, who understand the results to be accomplished through its deliberations and transactions. It is essentially a *pro bono* public organization. It has no private purpose to serve and no personal interest to promote. Its objects are Statewide and involve matters of vast public import.

In their consideration we seek the best expert information obtainable to the end that ill-considered and hasty action be avoided and that only those matters receive endorsement, which merit approval. This Association is made up of the representatives of the various cities, villages and organizations of the State. When its acts have received such public approval, they may then be translated into constructive legislation. This will ensure progress in waterway matters and will promote the public welfare. The wide range of topics to be considered at this convention, as announced on its programme, affords some conception of the scope of its activities and their importance to the people of the State. Here is a forum where all phases of waterway matters may be discussed and deliberated upon. Many of these are of vital interest to the people of this State and in no small degree are of interest to the people of some other States. Hence the Congress of the United States as well as the Legislature of this State may be the body, which must eventually act in the final disposition of the matters under consideration as in the case of the regulation of the interchange of freights between rail and water carriers, the pro rating of freight rates and a provision for through bills of lading. At the last session of the National Rivers and Harbors Congress I was a member of the Committee and Sub-Committee on Resolutions and presented a resolution, which was adopted, recommending the extension of the powers of the Interstate Commerce Commission so as to give it control over the interchange of traffic between rail and water carriers and enabling the Commission to provide a system for pro rating of freight rates between such carriers. These provisions were somewhat amplified and incorporated in the Panama Canal Act, approved by President Taft on August 24, 1912. It was stated by a member of Congress at the recent session of the Atlantic Deeper Waterways Association at New London, that this amendment to the Interstate Commerce Act, so incorporated in the Panama Canal Act, was one of the most important and beneficial to shippers, that has been made since the approval of the original act. For the first time in history of Interstate Commerce, common carriers may be compelled to receive and deliver traffic from water carriers under such regulations as may be prescribed by the Interstate Commerce Commission. This is an advance in constructive legislation so far reaching that none is bold enough to foresee all its benefits. Some such amendments as these may be made to the Public Service Commissions Law of New York to facilitate the interchanging and transit of intrastate traffic. One of the papers to be presented at this Convention will deal with that subject.

At the last annual convention of this Association I was authorized to appoint delegates from this Association to the National Rivers and Harbors Congress. Accordingly a hundred or more members were at Washington and participated in the activities of the National Rivers and Harbors Congress. I recommended that similar authority be given by this convention to your President, for we may accomplish some things by participating in the transactions of such organizations comprising as they do, delegates from all parts of the country.

I also appointed all the officers and members of the Executive Committee of this Association as delegates to the recent convention of the Atlantic Deeper Waterways Association which met in New London, September 4 to 6, 1912, and many attended. Large delegations from Albany and Troy were there.

Hon. Frederick W. Cameron of Albany and I were members of the Committee on Resolutions and we secured the recommendations of the Association to the speedy completion of the upper Hudson River improvement, the Harlem River improvement, Bronx Kills and Little Hell Gate improvements. We also secured a resolution calling upon the States along the inter-coastal canal to provide public terminals. Other provisions equally important may be found in the resolutions of that convention.

This will indicate the wide range of waterway matters that are receiving consideration in such Associations as this, whose delegates are thoroughly representative of the business organizations of the country. From an early day the people of that territory have taken a deep interest in waterway development for commercial and industrial purposes, and it is my hope that they will so continue. Few, if any, States possess such natural waterway resources. It would be a matter of irreparable loss to the people, if they were to lose interest

in their waterways, their water-powers and in their conservation and development for commercial and industrial purposes. This Association, if it were to serve no other purpose than that of stimulating public interest in these matters, would justify its existence and all that it costs to maintain it.

There are also matters of transcendent public importance coming within the scope of its activities, such as the preservation of the Adirondacks and Catskill forests as indispensable to the sources of the State's waters for canals, for navigation, for supplying cities and for many other purposes and the conservation and development of the State's extensive water-powers, which are not being utilized and whose waters are now largely running to waste.

These are already arousing public attention and the latter may give rise to some differences of opinion due to conflicting interests, but it ought to be apparent to all that our water-powers must be utilized under some form of public supervision that will be fair and equitable to all. Under paragraph 1 of Article II of the proposed Constitution and in anticipation of the matters that were likely to be presented to this convention, in relation to water-powers, their conservation and development, I appointed a Special Advisory Committee on the Conservation and Development of the State's Water-powers. The personnel of this committee is such and their acquaintance with the matters involved in conservation and water-power development, that I believe they will greatly aid this convention in solving such questions as may be referred to it.

Another matter is attracting much public attention and that is the pollution of the State's water courses. I had hoped to have a paper from an eminent authority on that subject at this convention, but he was called to Washington and unable to be present. The time has come when the public are demanding that the further pollution of our water courses be stopped and that refuse, sewage and other deleterious matter be disposed of otherwise than by dumping them into the waters of the State. The loss to the fishing and other interests and the menace to health and even to life from such pollution are matters of deep concern. Accordingly the prevention of the pollution of our inland waters may well engage the attention of this Association.

The extent of the pollution of the waters of the Great Lakes is now the subject of investigation by the International Joint Commission representing the Government of the United States and the Dominion of Canada under Article II of the Waterways Treaty of January 11, 1909, between the United States and Great Britain, in which it is agreed that the waters therein defined as boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other. Some officials of the State have already made spasmodic attempts at similar investigations of the interior waters of the State, and the time is at hand when the State will be compelled to adopt a policy looking toward the prevention of the further pollution of its water courses and the disposal of sewage as is being done by Berlin and other progressive European cities.

Since the second annual convention of this Association in the City of Buffalo in November, 1911, the Barge Canal Terminal Referendum measure has been approved, and the Barge Canal Terminal Conference under the direction of its Executive Committee (of which the Hon. George Clinton of Buffalo was chairman) has had one or more sessions to consider applications for money for terminals for such localities as were not specifically provided for, out of the general funds, authorized by such Referendum measure, and also to consider proposed modifications of plans for Terminals, specified in the Law. Many members of this Association are also members of the Barge Canal Terminal Conference and of its Executive Committee and have rendered such assistance as they were able to that Executive Committee. We shall hope to hear from Mr. Clinton and the State Engineer and Surveyor something more in regard to Barge Canal Terminals during the sessions of this convention. The authorization of the construction of such terminals subject to such advisory suggestions as may be made by representatives of localities, imposes the obligation on the State officers to proceed with the construction of terminals at the places specifically designated, to the end that Barge Canal traffic may not be hampered by inadequate terminal facilities when the barge canals are open for navigation. The importance of these cannot be overestimated, and we may profit from the experience of

Foreign countries where much attention has been given to the equipment of ports. Detailed information in regard to terminals and their equipment may be had in the report of the Barge Canal Terminal Commission and accurate data in regard to the same in the papers presented by Foreign delegates attending the recent International Congress of Navigation at Philadelphia. These papers were prepared and presented by Engineers and officials in charge and contain specific information in regard to the construction, equipment and operation of all or nearly all European ports.

In addressing the Long Island Waterways Association consisting of 100 local organizations at its first meeting on September 3d, I called attention to the preservation of waterfront properties and riparian rights appurtenant thereto, and I think it proper to call attention again to the same matter, to the end that there may be no further giving away or sacrificing valuable waterfront properties and rights in this State, that may tend to limit its industrial development and commercial expansion.

We may hear from Mr. George P. Decker and others something of the irreparable losses of the State in this direction and the reports of our Courts show to some extent the losses of waterfront properties and water rights sustained by the citizens of the State. The history of these losses will disclose the fact that corporations have been ever vigilant in asserting their claims to such properties while the people have slept on their rights and suffered them in some instances to pass beyond their control. For many years the Land Board was altogether too prone to grant away lands under water and other lands, without giving due consideration to the merits of the applications therefor and by chapter 625 of the Laws of 1881 all patents theretofore issued pursuant to resolutions of the Commissioners of the Land Office and sold by them at private sale to purchasers in good faith were ratified and confirmed, provided the same, however, did not refer to any lands under the Bay or Harbor of New York. In chapter 208 of the Laws of 1895, the Act was amended to include grants of land under the waters of lakes as well as navigable rivers and to promote the commerce of this State or for the purpose of beneficial enjoyment thereof for such owners, and providing also that private rights of property of individuals should not be taken away nor impaired nor impeded without due process of law. Upon the report of the Secretary of State, the Hon. John T. McDonough, made in 1899, in which he claimed that the Land Board was unauthorized to make certain beneficial grants and that lands under water were held by the State in trust for the public, and that land grants should not be made except for public or quasi public purposes, the Land Board on March 1, 1900, amended its rules of procedure so as to require a reservation in all subsequent grants in effect that people might enter upon the lands included in such grant until the same be actually appropriated to the purposes of commerce by erecting docks thereon, and containing other restrictions not necessary to mention. Since that time grants of lands under water have been less frequent, and it is likely that many grants made between 1870 and 1900 might be declared invalid, if they were contested in the Courts, on the ground that all such lands are held by the State in trust for the people for the purpose of commerce, fishing, etc., and can not be granted, except to the owners of the adjacent uplands, as is now provided for by law.

The history of grants of lands under water through the Dutch, British, Colonial and State periods, and the litigation growing out of such grants and the extent and uses of the water-courses and water-powers of the State, together with other phases of waterway matters, afford material for an interesting work of several volumes. Waterways are the highways of commerce and become more important year by year as the population of the State and nation becomes more congested and the demands for economical transportation of agricultural, manufactured and other products increase. Accordingly the public is becoming better informed and yearly more deeply interested in all waterway matters. This is seen in the literature of the day, in the large associations formed to consider such matters, in the public discussions in legislative halls, and in the constructive legislation of several States and of the National Government as well as of Foreign countries. If we are able to help solve any of the problems growing out of or incidental to waterway matters in this State, we will have performed a public service and done a little something toward keeping New York abreast

of the waterway movement going on the world over. I hope the delegates to this Convention will feel well repaid for the sacrifices they have made in leaving business to attend this Convention and in having some part in a public service so far reaching that every inhabitant of the State may be benefited thereby. I am grateful to you all for your presence at this Convention and for the assistance which you have rendered to me since I was called to the head of your Association. (Applause.)

A committee to consider and determine the eligibility of delegates and prepare the Roll of this Convention was appointed by the Chair as follows: Olin J. Stephens, New York, Chairman; Francis H. Lamon, Watertown; John Williams, New York; Norman E. Fish, North Tonawanda; Joseph Bailey, Patchogue. Because of the provisions of the new constitution as to the requirements in delegates, the report of the Committee on the Roll of the Convention was deferred.

ROLL OF THE CONVENTION.

The completed Roll of the Convention was as follows:

Albany Chamber of Commerce.—Edward N. McKinney, William B. Jones, Frederick W. Cameron, E. A. Bond.

Buffalo Chamber of Commerce.—Dell L. Tuttle, George Clinton, Henry W. Hill.

Carthage Board of Trade.—J. G. Jones, H. J. Cadwell, M. Gleason.

Empire State Forest Products Co., Watertown.

Factory Square Power Association, H. H. Babcock Company, Farwell & Rhines, Nile & Jess Company, Charlevoix Brothers, Factory Square, N. Y.

Jamaica Bay Improvement Association.—Nelson B. Kilmer, Ernest A. Des Marets.

Merchants' Association of New York.—C. S. Mead.

Mott Haven Company, New York.

North Side Board of Trade, New York.—Charles E. Reid, Charles F. MacLean, Olin J. Stephens.

North Tonawanda Board of Trade.—Miles Ayrault, Norman D. Fish.

Oswego Chamber of Commerce.—P. W. Cullinan, L. MacLay, F. O. Clarke.

Rochester Chamber of Commerce.—George F. Argetsinger, Frank S. Ellsworth, Rochester Railway & Light Company, James T. Hutchings, John E. Parker. Syracuse Chamber of Commerce.—Henry R. Peck, Henry C. Allen.

Troy Chamber of Commerce.—Edward F. Murray, Samuel E. Hutton.

Waterford Chamber of Commerce.—J. W. Huff.

Watertown Chamber of Commerce.—S. R. Cleveland, C. C. Burns, George H. Cobb, George C. Sherman, Newton Falls Paper Company.

Joseph H. Bailey, Patchogue.

Howard D. Hadley, Plattsburgh.

A. H. Jagers, New York.

Louis Jaeger, Greenport.

Robert H. Rogers, Schenectady.

E. Platt Stratton, Flushing.

George W. Wilson, Brooklyn.

James Buchanan, Charles Clinton, W. W. Hulse, C. R. Lush, Franklin E. Robinson, Samuel Sanders, F. D. Schaumburg, W. Fred Selleck, Burton M. Stumpner, Addison Wheeler.

The report of the Special Committee on the Constitution, By-Laws and Rules of Procedure was read, in the absence of Hon. Frank S. Gardner, New York, Chairman, by Charles E. Reid, New York. The report follows:

CONSTITUTION AND BY-LAWS.

Mr. President, the undersigned committee, appointed at your meeting held in Albany on the evening of January 4, 1912, report herewith:

Draft of
CONSTITUTION, BY-LAWS and RULES
for the government of
THE NEW YORK STATE WATERWAYS ASSOCIATION.

ARTICLE I.

NAME.

This organization shall be known as "The New York State Waterways Association."

ARTICLE II.

DECLARATION OF PRINCIPLES AND OBJECTS.

The New York State Waterways Association believes that the waterways, rivers and harbors of the United States should be improved, with all practicable speed, to an extent commensurate with the fullest development of our commercial, manufacturing and agricultural interests. We believe that such improvement should include the conservation and development of valuable water-powers which are not now utilized, as well as the improvement of navigation. We believe that some of such improvements are, and should be, properly a charge upon the General Government; that others should be in part a charge upon the General Government, and in part a charge upon the States in which they are located, and that still others should be wholly a charge upon the State or the immediate locality, or in part on the State and the immediate locality.

The New York State Waterways Association declares that its purpose to be, so far as lies in its power, to urge the just claims of every navigable water within the State of New York, the improvement of which would be a proper undertaking by, and the cost of improving which, would be a proper charge upon either the Government of the United States or the State of New York.

For this object we urge a united effort by the people of this State and united action by our Senators and Representatives in Congress without regard to political affiliations.

While such united action, as far as practicable, is manifestly important, no support, either of any locality or of any Congressman will be accepted on the condition of giving the endorsement of the State Waterways Association for any project which is not in itself meritorious and properly chargeable to the National Treasury or to the State or locality respectively. Upon this just and sound principle the New York State Waterways Association will stand before the country and before Congress and the State Legislature, and will concede that which is just to others and demand that which is just to our own State.

ARTICLE III.

MEMBERSHIP.

The membership of the New York State Waterways Association shall consist of individuals, firms, corporations, and delegates from local associations, boards of trade, business men's associations, chambers of commerce, and exchanges, who or which may subscribe to this Constitution and contribute to the support of this Association as provided in Article VII, and who shall have been elected by the Executive Committee.

ARTICLE IV.

OFFICERS.

The officers shall be selected from among the membership of the Association, and shall consist of a President, three Vice-Presidents, a Treasurer, and a Sec-

retary, who shall be elected at the annual State convention of the Association and shall perform the duties usually devolving upon such officers respectively.

ARTICLE V.

COMMITTEES.

The officers, together with such members of the Association as may be designated by the annual or State Convention, or who shall be named by the President pursuant to power conferred upon him by any such Convention, shall constitute the Executive Committee.

The President and Secretary of the Association shall be Chairman and Secretary, respectively, of the Executive Committee. The Executive Committee shall, so far as lies in its power, carry out the purposes and resolutions of the Association except as to such matters as shall have been confided to a special committee. Special committees shall report to the Executive Committee whenever deemed desirable, or when requested so to do by the President or the Executive Committee. The President, with the approval of the Executive Committee, shall have power to add to the number of, or to discharge any special committee, or to appoint a new special committee to take its place whenever it shall be deemed for the interest of the Association so to do. The Executive Committee may appoint sub-committees of its own number, or of members of the Association, to carry out any purposes of the Association. It shall have power to authorize disbursements, but not in excess of the funds in the treasury. It shall make all necessary arrangements for the annual or any other convention of this Association, and shall have power to fill all vacancies occurring between annual conventions.

The President may submit to members of the Executive Committee by mail, for their vote thereon, any question over which the Committee has control. Ten members of the Executive Committee present in person shall constitute a quorum at all called meetings; a vote upon all questions submitted by mail shall be decided by a majority of all the members of the Committee.

ARTICLE VI.

MEETINGS.

The Association shall meet at least once in each year in State Convention at such time and place as may be designated by the Association at its annual State Convention last held, or, in the event of the time and place not having been so designated, then at such time and place as the Executive Committee may direct. The President, with the approval of the Executive Committee, may call a State Convention, other than the annual Convention, whenever in their judgment circumstances would warrant.

ARTICLE VII.

DUES.

Individuals who are members of this Association shall pay two dollars or more per year; firms or corporations shall pay five dollars or more per year; local associations shall pay ten dollars or more per year, and such associations shall be entitled to send three delegates to any State convention for each ten dollars paid in such year.

Any individual, firm or corporation or any local association not previously enrolled as a member, when invited by the Executive Committee, may participate in any State Convention by applying for membership and paying to the Treasurer the amount of the annual dues.

Respectfully submitted by your committee, Mr. President.

George W. Wilson, Brooklyn, moved that the report be accepted and approved. Patrick W. Cullinan, Oswego, suggested that it be referred in order that amendments might be offered. After some discussion it was decided to consider the report at this time, with the understanding that amendments could

be offered later with the same effect as if now made. E. Platt Stratton, Flushing, seconded Mr. Wilson's motion, which was carried unanimously.

COMMITTEE APPOINTMENTS.

PRESIDENT HILL: The next order of business is the appointment of committees. You will notice on the program that a Committee on Resolutions is to be appointed, consisting of three sub-committees. Let it be understood that the policy has heretofore been that resolutions introduced went first to the sub-committees and then were reported back to the full Committee on Resolutions. The sub-committees act as component parts of the full committee and the resolutions having passed first the sub-committee and secondly the Committee of the Whole, then came back to the Convention for its action. With that understanding and pursuant to the authority conferred, I will then appoint the following committees:

Committee on Resolutions: Hon. John D. Kernan, Utica, Chairman.

(A) **Sub-Committee on State Canals and Inland Navigable Waterways:** Hon. Patrick W. Cullinan, Oswego, Chairman; S. Christy Mead, New York; John R. Myers, Rouse's Point; Hon. Danforth E. Ainsworth, Albany; J. E. Montague, Niagara Falls; Herbert R. Peck, Syracuse; Stephen R. Cleveland, Watertown; Mayor S. E. Townsend, Rome; Howard D. Hadley, Plattsburgh.

(B) **Sub-Committee on Tide Waters, Rivers and Harbors:** Hon. Charles F. McLean, New York, Chairman; E. Pratt Stratton, Flushing; James T. Hoile, Brooklyn; Edward F. Murray, Troy; J. W. Huff, Waterford; Hon. George F. Argetsinger, Rochester; William B. Jones, Albany; Hon. M. E. Connelly, Corona; Edward N. McKinney, Albany; Dell L. Tuttle, Buffalo.

(C) **Special Committee on the Conservation and Development of the State's Water-Powers:** Hon. George Clinton, Buffalo, Chairman; Hon. Frank S. Gardner, New York; Hon. John D. Kernan, Utica; Hon. George H. Cobb, Watertown; Hon. Lewis Nixon, New York; Hon. Frederick W. Cameron, Albany; Nelson B. Killmer, Brooklyn; James T. Hutchings, Rochester; Col. James M. Andrews, Schenectady.

President Hill then appointed the Committee on Nominations, as follows: Hon. George H. Cobb, Watertown, Chairman; Hon. George W. Wilson, Brooklyn; Samuel E. Hutton, Troy; Robert H. Rogers, Schenectady; William W. Hulse, Bay Shore; John C. Parker, Rochester; Miles Ayrault, Tonawanda; Addison Wheeler, Brooklyn; Charles E. Reid, New York; Frederick O. Clark, Oswego; Olin J. Stephens, New York; Oscar S. Foster, Utica.

Resolutions were then presented, as follows:

RESOLUTIONS.

By Captain Clark, Constantia, relating to Canals.

By Edward N. McKinney, Albany, widening and deepening the upper Hudson channel.

By Nelson B. Killmer, Brooklyn, recommendations of Dock Commissioner Calvin Tomkins.

By Mr. Killmer, Flushing and Jamaica Bay Canal.

By Norman D. Fish, improvement of the Niagara River and Tonawanda and North Tonawanda Harbors.

By Joseph Bailey, Patchogue, improvement of Long Island waterways.

By Edward F. Murray, Troy, by request of William J. Roche, Troy, Committee on Legislation and holding of stocks in competing companies.

By George Clinton, Buffalo, improvement of Buffalo Harbor.

By E. Platt Stratton, Flushing, barges for the Barge Canal.

By Howard D. Hadley, Plattsburgh, upper Hudson improvements.

By Charles E. Reid, New York, waterway from the Hudson River, via Harlem Ship Canal, Harlem River and Bronx Kills to Long Island Sound.

By Celestin C. Burns, Watertown, for the development and improvement of the Black River Canal.

By Patrick W. Cullinan, Oswego, for the improvement of Oswego Harbor.

Treasurer Olin J. Stephens, New York, presented his report. Upon motion by Charles E. Reid the report was received and referred to an Auditing Committee. President Hill appointed the committee, as follows: William B. Jones, Albany, Chairman; Andrew H. Wilson, Brooklyn; John N. Carlisle, Watertown.

Mr. Stephens moved that the members of this Association who might attend the National Rivers and Harbors Congress at Washington in December and all members of the new Executive Committee be appointed the delegates from the New York State Waterways Association to the ninth National Rivers and Harbors Congress, to be held in Washington in December, with a suggestion that the delegates provide a dinner in Washington at which such delegates would have an opportunity to meet the members of the New York Congressional delegation.

JAMES T. HOILE (Brooklyn): I believe if there was any one purpose above others for the formation of the New York State Waterways Association it was for the distinct and special purpose of uniting and solidifying the work of the members of Congress from the State of New York. I know whereof I speak when I say that was the inception of this organization, the primary motive for the formation of the Waterways Association of New York was the corralling of our scattered members of Congress throughout the State and make them as it were to speak as one man for the State of New York, and I know further that at the meetings of our Executive Committee of this State organization that particular feature has been emphasized, and if it be lost sight of, I may state all the official committees and organizations you have may meet and prepare preambles and resolutions, they in themselves are good expressions of public sentiment, but it takes appropriations to build canals and improve waterways. Appropriations come from our Federal, State and local Legislatures and without that all of our resolutions are simply tinkling cymbals and sounding brass; they have no forceful, practical effect. I want to say that it meets with the plan and purpose of this Association to be practical in obtaining the sinews of war that produce results, that they do not overlook and it may be held in the forefront all the time until New York State comes into its own. (Applause.)

George W. Wilson, Brooklyn, moved an amendment to the motion by Mr. Stephens, and the motion as made and amended, to the effect that the President of the Association be empowered to appoint additional members to the Executive Committee, and that such committee, including the officers of the Association, constitute the delegation from the Association to the ninth Rivers and Harbors Congress, was carried.

The presentation of addresses and papers was begun.

ADVANTAGES OF TRANSPORTATION BY WATER.

The first paper was upon "The Advantages of Transportation by Water," by Hon. Frederick W. Cameron, Albany. Mr. Cameron said:

From time immemorial a favored means for transportation has been that of the boat. In eastern countries, where inland transportation was principally confined to the camel, the use of the ship and barge, where opportunity offered, was peculiarly welcome.

The great commercial centers were built up on the bays forming harbors along the sea coast, or on the larger streams penetrating the interior. In Europe the ancients, as they became civilized, constructed bateaux in place of canoes and established the large seafaring ports of Carthage, Constantinople and Marseilles. The Romans utilized Neptune's domain not only for transporting her legions and her galley ships, but also for bringing produce and wealth from the great trade emporiums of the world to the Imperial City on the Tiber.

The following is from William Penn's memoirs:

"Instructions to three commissioners appointed in 1681 to select a site and lay out the great city:

"The creeks should be sounded on my side of the Delaware River, especially Upland, in order to settle a great town, and be sure to make your choice where

it is most navigable, high, dry, and healthy. That is, where most ships may best ride, of deepest draught of water, if possible to load or unload, at ye Bank or Key side, without boating and lightering it. It would do well if the river coming into ye creek be navigable, at least for boats up into the country, and yt the scituation be high, at least dry and sound, and not swampy, wch is best knowne by digging up two or three earths, and seeing the bottom.

“Such a place being found out for navigation, healthy scituation, and good soyle for provision, lay out ten thousand acres contiguous to it in the best manner you can, etc., etc.”

To the present day the great cities, the most populous districts and the greatest wealth, in every country, are found on the deep water harbors or rivers. London, with its more than seven million inhabitants, and in many ways the greatest city in the world; Glasgow, the second city in the British Empire, to whose walls the largest ocean vessel makes its way; Liverpool, the greatest of British ports, with a population of a little less than that of Glasgow; Paris, on the Seine, the greatest city in France; Antwerp, which is said to be all of Belgium; Amsterdam, and Naples, to say nothing of New York, Philadelphia and Chicago, all attest the truth of this statement—that for some reason or other the largest cities, the greatest volume of business, the centers of activity are found at favored points along the waterways of the world.

Have these cities become so great and prosperous because they were located, established and received their impetus before railroads became effective, or is it because of some peculiar advantage obtained because of being on the water?

Certainly the cities of the old world were large and prosperous before Stephenson perfected the locomotive, and even Philadelphia and New York, Boston and New Orleans, were established and prosperous before the advent of the railroad. But since the great trunk lines of rail have been built, new cities have been founded on waterways and the old ones have continued to grow and still the biggest and most important places are those on the harbors. What is it that proves so advantageous to these communities, which accounts for their increase in population and wealth other than the mere fact of their location? Our commerce with countries beyond the sea must be by water, and so far as our business with Foreign countries is concerned, it is principally done through our large seaport towns. But the means for transporting the goods within our own country to and from the ports of receipt and departure, and the means for transporting from one portion of our country to another to be consumed within our borders is what makes business, attracts capital and stimulates industry to and in these leading centers. Both railroads and inland water transportation lines accomplish this.

The effect of the means of water-transportation upon the people generally and upon the railroads is now a matter for our consideration.

Since the days of the caravan on the desert a very long step has been taken in the means for carrying freight and passengers. It is a common expression that distance has been annihilated by the railroad and later by the automobile; and on the sea we have the propeller in place of the sail and later the motor-boat, which corresponds to the trolley on the shore. With all the improvements in navigating the seas, however, it is impossible to move a ship on the water as fast as an equally heavy train on a track, so that when time is an important consideration the railroad has the preference.

It has been estimated that a dollar will carry a ton of freight four miles on an ordinary road, ten miles on a first-class road, 127½ miles on a railroad, 1,250 miles on the Great Lakes and about 2,000 miles on a river when completely improved. It is therefore seen that the cheapest way to carry freight is that of the river. It is unnecessary, I believe, to elaborate upon that point, as I consider that it is conceded by every one, as indeed it must be by all who look into the matter at all, that it is far cheaper to transport goods by water than by rail. But is it enough cheaper to make it important to the consumer, or is the difference in the cost more than made up in the increased length of time that is taken?

In regard to the first question, the Chamber of Commerce of Boston reports that New England's coal consumption in 1908 was about 24,000,000 tons, for

which over \$100,000,000 was paid, and the report of the Chamber of Commerce continues as follows:

"An analysis of the expenditure of \$100,000,000 shows that in round numbers only about \$30,000,000 was paid for this coal at the mouth of the mine, while the remaining \$70,000,000 was paid to the transportation companies and coal dealers for the delivery of the coal to the consumer."

This tremendous expense of \$70,000,000 out of \$100,000,000 is sufficient to call attention to the magnitude of the cost of transportation. Of course there is the middleman to be accounted for, but the Chamber of Commerce explains the price of transportation in this way:

"All rail route from Pittsburg district to Worcester, Mass., \$3.10.

"Tide-water rate, necessitating rail carriage across the State of Pennsylvania by outside water route to New England and by rail route again to destination, as follows:

From Pittsburg district to Philadelphia.....	\$1.65
Vessel rate, Philadelphia to Providence.....	.50
Cost of discharging and weighing.....	.21
Rail rate, Providence to Worcester.....	.85
Through rate	<u>\$3.21</u>

"From this it will be seen that the coal that is carried by tide-water, journeying across the State of Pennsylvania, given a sea voyage, being laden and unladen, is landed in Providence for \$2.36 per ton; but is also observed that in the absence of water carriage in New England, the rail rate for the short distance from Providence to Worcester is more than sufficient to overbalance the all-rail rate from the mines to Worcester."

This is referred to as an evidence of the railroad charging for the short haul enough to prevent competition by water. I now speak of this, however, for the purpose of showing that the cost of transportation on coal—an article that is used by all the people as well as by the manufacturer—is very largely increased in price because of the cost of transportation.

In a very ingenious and interesting book published by S. A. Thompson on "Waterways as Creators of Prosperity," Mr. Thompson states as follows:

"That the railway receipts for one year exceeded the combined revenues of all the civil divisions of the United States, from the nation down to the township, by nearly \$131,000,000. The Census Bureau publishes a statement of the revenue receipts for the various civil divisions of the United States for one year. This statement covers receipts from all sources except the sale of bonds, including general property, special property, business and poll taxes; liquor and all other licenses and permits; fines and forfeits; subventions and grants; donations and gifts; interest; special assessments; fees and charges; privileges; industrial income from municipal water, electric and gas works, etc., and all other unclassified general and commercial revenue receipts. A condensed summary of this statement, which covers nearly 200 pages of small type, gives the following result:

Revenue Receipts.

Fiscal Year Ending June 30, 1902.

States and Territories.....	\$189,165,067
Counties	199,119,468
Cities, over 25,000.....	424,763,472
Cities, 8,000 to 25,000.....	75,216,973
All other minor civil divisions.....	219,304,262
Total	<u>\$1,107,569,242</u>

"For the same year the revenues of the National Government from all sources, including customs, internal revenue, postal revenues, and more than a score of miscellaneous sources of revenue, such as sales of public and Indian lands, profits on coinage, repayments by Pacific railways, tax on national banks,

etc., were \$684,326,280. Adding this to the amount given above, we get a total of \$1,791,895,522. Turning now to the reports of the Interstate Commerce Commission, we find the gross earnings and income of the railways for that year amounted to \$1,922,703,896. A simple operation in subtraction.

Comparative Revenues, 1901-2.

United States Railways.....	\$1,922,703,896
All civil divisions of United States.....	1,791,895,522
	<hr/>
Excess of Railway revenue.....	\$130,808,374
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It is of interest to compare the revenues of United States railways with those of some of the principal nations of Europe, as follows:

"Revenues of Foreign Nations and United States Railways.

France, 1906	\$715,074,344
United Kingdom, 1905-6.....	700,666,869
Germany, 1906-7	570,563,137
Italy, 1905-6	470,565,700
Spain, 1906	172,767,678
Belgium, 1906	107,860,738
Austria-Hungary, 1906	72,008,078
Netherlands, 1906-7	71,451,788
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Total revenue of Governments named.....	\$2,880,958,332
United States Railroads, 1906-7.....	2,875,689,520
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Excess of Government revenues.....	\$5,268,812
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It seems to me that this is sufficient to show the great financial importance of the question of cost of transportation.

That this question is one that affects us all is apparent upon a moment's thought. Everything that we use, all our implements in the office, workshop, and on the farm; everything that we wear, either from necessity or for ornament; everything that we eat and a good deal that we drink, is taxed for transportation. It is extremely difficult to determine how much is paid on each article, but it is positively something. In the case of the coal brought to New England, it is a good deal. That the total is enormous we see from the foregoing figures where in one year it amounted to \$130,000,000 more than all of the income from any source of this great Government. It is like any indirect tax, it is so insidious and difficult of computation that it passes without much consideration. But when its magnitude is ascertained in the total that is derived by such taxation, we are astounded.

When we remember that a ton can be carried from 1,250 to 2,000 miles by water for the price that it costs to transport it 127½ miles by rail, and when we know that the railroads have received for the transportation of freight and passengers in the United States, for one year, \$130,000,000 more than from all the revenues in the United States combined, we are forced to the conclusion that if we carry the larger part, or any reasonable proportion of that freight by water instead of by rail, we would save a very large amount of transportation charges.

The question may be asked — can we make that saving? Would not the railroads prevent any saving by doing, as the Chamber of Commerce in Boston has stated is done in reference to bringing coal from the mines to New England, charging so much for the short haul from Providence to Worcester that the cheap carriage by sea added thereto would equal or exceed a direct rail route charge. This probably will be impossible in the future.

A bill lately passed Congress, known as the Panama Act, makes it unlawful for railroads to discriminate in this way. The railroads are prevented from owning or being financially interested in competing water transportation func-

tions, and are also prevented from doing just that which in the coal case referred to was done, charging more from the place where the cargo is unloaded to the place of consumption than would be charged from the place where the cargo is unloaded to the place of consumption if the goods had been sent all the way by rail. If this law is carried out there seems to be no doubt but that a large part of the \$70,000,000 referred to by the Boston Chamber of Commerce, can be saved to the people of New England. And in a similar way a large part of that amount of money of \$130,000,000, more than all of the income of this Government now paid to railroads for transportation, may be saved to the consumer by utilizing the means of water transportation which we now have.

President Taft during his campaign in 1908 in reference to water transportation, said:

"During the season of 1907 there passed through the Soo Canal 58,000,000 tons of freight, which was carried an average distance of 828 miles at a cost of \$38,500,000, making an average cost of eight-tenths of a mill a mile.

"If this freight had been carried by rail at the average railroad rate per ton of 7.82 mills it would have cost \$377,000,000. That is to say, the saving through decreased cost of transportation on the business of a single lake for a single year amounts to \$338,500,000, or nearly four times the total amount expended by the Government on all the lakes since their improvement was begun."

A question of the saving by water transportation is referred to in the Philadelphia Record as follows:

"The importance of inland waterways in connection with the commerce of the port and the comparatively small cost of carrying merchandise by that means are shown by the arrival of two vessels from Syracuse, N. Y., with cargoes of domestic salt. The vessels, which hail from and are owned at Buffalo, came through the Erie and the Delaware and Raritan Canals. In the former there were no tolls, but in the latter fifty-nine cents per gross ton was charged on each vessel.

"Notwithstanding the long distance which the barges had to be navigated and the delays consequent to canal travel, Captain Connolly, owner of the vessels, says the salt was landed here cheaper than the railroads could carry it, and the barges will take back cargoes in competition with the railroads.

"The motive power, consisting of four mules, was also carried on the vessel."

Railroads take advantage of cheap transportation by water in many instances. The heavy freight carried by the Pennsylvania Railroad is taken by vessel from New York to Philadelphia and there loaded on trains and sent to the west. There is a saving of 100 miles by rail. It is common practice for the large railroads to own ships or vessels capable of carrying by water in conjunction with the railroad. It would be an advantage, we maintain, to the New York Central Railroad, if the Hudson River was deepened, to carry its heavy freight to Albany and there put it on the cars and send it to the west, thus saving about 150 miles of railroad transportation and enabling it to compete more favorably than now with its great rival, the Pennsylvania Railroad.

It is common knowledge that at the terminals, especially in the cities of New York, Philadelphia, Chicago and Boston, the cost for loading and unloading the trains is so enormous, that it is almost impossible to conceive the amount of the charges which go to maintain these terminals. To be relieved of the heavy traffic which could be carried so much cheaper by water would be an immense benefit to the railroads.

Mr. James J. Hill, chief railroad oracle, said in reference to the car shortage of 1907, as follows:

"In view of the inability of the railways to move the heavier classes of freight, there has been no subject before Congress for twenty years which interests so many people and will prove so great a benefit to the entire basin of the Mississippi and Missouri Rivers as the deep channel from St. Louis to the Gulf of Mexico."

Mr. Hill was referring to only two rivers — two great rivers in the Middle West.

Another authority states:

"The railroads are already overworked; that while in ten years American railroad traffic has increased $2\frac{1}{2}$ times, railroad capacity has increased but little more than one-fifth; that one tow of barges will carry freight that would fill ten railroad trains of twenty-five cars each of thirty tons capacity; that the average rate being one-tenth of the rate per ton on the railroads, plainly indicates the advantage that may be gained for American domestic trade by the creation of waterways between great industrial communities; and, finally that while far more traffic can always be carried upon a canal than upon a railway, there is clear evidence that by no possibility can American railroad capacity expand rapidly enough to meet the requirements of swift-growing home trade."

In my opinion, the rapid growth, the material wealth and the unexcelled prosperity of the United States is largely due to the great railroads. Too much cannot be said in praise of the great pioneers in railroad construction, men who put in jeopardy their fortunes and their lives in binding together the East and the West, the North and the South, by the bonds of steel which have solidified and strengthened our Republic as nothing else could do. I have no patience with those who strive to break down, or even minimize, the property value of railway companies and their securities. Although large fortunes have been made in the development and use of those gigantic enterprises, still I believe they are entitled to great profits when we consider the capital involved and the risks to which they were subjected when the schemes were in their infancy.

I, therefore, do not advocate anything from a desire to antagonize the railroad, but I contend that the railroad does not and cannot do the work alone to the best advantage of either itself or the people at large. It has a legitimate and useful occupation peculiarly its own and with which transportation by waterways would not injuriously interfere. As has been said before, where time is material the railway is supreme, but the transportation of heavy commodities is more an hindrance than an advantage to the real functions of the railroad to-day. Business has become so great that it is impossible to find cars to carry the produce. The roads have become so congested that it is difficult to find time to move the trains and at the same time keep the roads open for fast-moving passenger traffic. The terminals are so crowded and so extensive that it is with difficulty and only at tremendous expense that the cars are unloaded when they reach their destination.

The conclusion forced upon us by a careful consideration of the whole matter is that the use of our inland waters for transportation will result in a great saving to the body politic of a vast amount of money, by reducing the cost of the products of the mine, factory and field; that it will bring into practical use that which is supplied by nature for the use of man, our great rivers and lakes; that it will provide a powerful means, which co-acting with our magnificent railroad facilities, will result in building up and making more prosperous the whole country. (Applause.)

RELATION OF STATE TO WATER DEVELOPMENTS.

The next paper was by George P. Decker, Esq., Counsel to the New York State Conservation Commission, on the "Relation of the State to Water Developments." Mr. Decker said:

No projects for extensive works are surrounded with quite so much difficulty as those for certain developments of water. One reason is that private dominion over land because most of the land has become private property, is quite universal, while the right of public dominion over waters is quite as universal. The latter right is not so apparent because it has not been everywhere actively exercised or sharply asserted. Private control and public control over use of streams meet in a zone where certainty as to either is separated by a margin of uncertainty as to both. The sufficiency of flow for useful boating has been the physical test of the full right of use by the public, but this limit has never been fixed on the ground on all streams in this or perhaps any other jurisdiction. The Legislature, however, has assumed to know the limits on many streams in this State.

Another reason for trouble is that diversions of natural flow in most instances when prejudicial to adjacent lands is recognized as a taking of property and the injury may extend far and wide. This may not be done as against an unwilling private owner unless it be for a true public purpose, and after provision for compensation.

The troubles thus arising exist in different degrees in connection with each of the more important uses of water. These uses are, in New York, domestic, navigation, fishery and hydraulic uses. Mining and irrigation have made practically no demands here for water. Industrial progress has required that each of these utilities be made by improvements more serviceable. None of the utilities named has been developed in any proper sense of that term except by aid of the State. When made we call the improvements public works. As the State exists only for the benefits of its members it is endowed with powers to be exercised for the benefit of all alike, that is, only for public purposes. Private enterprise may have dug wells, removed snags from channels, stocked small ponds with carp, or built small dams, but something more pretentious has been needed to meet the demand of an ever increasing latter-day population.

Except as to hydraulic developments these needs have been generally satisfied. But the developments have been accomplished through use of the governmental power and authority to take private property and to use public possessions. We needed the State's authority to secure water works, so called, which must have rights of way and divert streams, for wells were not sufficient. We needed the State's authority to secure canalization which required rights of way, and of diversion, for rafts were inadequate for our growing commerce. We needed a better fish supply, for fresh water fish were disappearing. In doing these things the State has either exercised governmental power directly through government departments, or has conferred its powers on enterprising private hands, and our waters were developed in the directions named.

It would not affect our point if the financial means to do these things were not always furnished by the public treasury, nor the works always carried on through public offices. What the State had the right to do through those agencies it could perform through private individuals or capital when that service was tendered. The important fact here is, that the purpose of those developments was public in the strict sense of that term. It was not the aim to furnish domestic water, ten-foot channels or good fishing, specially for a particular man named John Smith, though we know he was a good citizen; but it was to enable all to share equally in the benefits of such development of water as, it was believed, would promote general welfare.

These projects were, and still are being accomplished, and the works operated, by use either of Government means or Government power, or both, delegated to private hands, or by Government directly. The same would have been true had we mines and arid lands dependent upon still other special uses of water needing extensive development.

It is now accepted as sound doctrine, and the Courts agree on this, if on no other point, connected with water, that to furnish John Smith only, with water, with a canal or good fishing or even with hydraulic power, would not be a proper exercise of a governmental power, nor constitute a public use of public funds. The Courts hold, however, that to do these things where communities will be benefited and on condition that all individuals may enjoy these uses of water on equal terms, is a proper use of governmental power and a public, and therefore lawful use, of public funds. For these purposes such projects will be sustained when undertaken.

The difficulties have not been great in securing adequate development of domestic water supply. The volume of stream flow needed for that purpose has been too small to provoke serious resistance by other interests. At all events, development of that sort has been progressive and satisfactory.

Few centers of population which need them have not been supplied. The advantages afforded are shared by all on equal terms from fountains of stored or diverted waters served along rights of way, acquired when necessary by eminent domain. Instances where these supplies have been diverted for public use from natural fountains of public water without actual authority of law

exist, but the fact is not material just here. Incidentally, it may be noted that this service is rendered to-day largely through investment of public funds and by instrumentality of State or municipal departments, and that this service through private capital and private enterprise, has not been satisfactory.

The waters of the State have long been stocked with fish by use of State funds and through official instrumentality. Private capital or private enterprise has scarcely been known in this branch of water development. The results have been beneficial, and the improvement progressive. The work has provoked no challenge of State authority. That may be due to indisposition of the State to compel removal of private dams obstructive to fishery. It has been said that the right to fish in all fresh water streams above the tide is an exclusive right in the private owner of the adjacent land. No such law has ever been recognized in practice in our State history. Everyone fishes in the boatable waters of this State, claims it as a right, and would fight for the right if challenged, and expect to win unless the water had been closed by the State itself to serve some other public purpose. Whether one may trespass to get upon those waters, is a different question.

Many of our streams have been canalized, and always under State authority, by which necessary rights of way were acquired and diversions made. These canalizations have been extensive in New York, and have fairly met the demands for water transportation. It was canalizations which gave New York her commercial supremacy. They have been made, almost always, by use of public funds and through State departments. The policy of canalization by private capital and enterprise was long ago discarded here, though a few relics of it remain. In canalization we have had a world of trouble which has come from the disturbance of hydraulic power or the incidental development of surplus power by canal works. It would not be true to say that hydraulic power has been largely developed here by use of governmental power. The contrary is the fact. There is a sharp distinction, however, between governmental power and governmental permission, and it has been widely ignored. Practically all of the hydraulic developments of our boatable waters outside of the developments incidental to Government canalizations have been made under governmental permission. Practically speaking, there has been no hydraulic power developed by use of State funds or governmental power, if we except the incidental developments named. The reason has been that prior to the time when constant electric power became a reality, wood and coal were both cheap and abundant for power, and the numerous small hydraulic powers were available for adequate development by individuals without the right of condemnation; and those powers could be utilized, in case of boatable streams, without serious interference with boating. Those numerous, but small hydraulic developments, met in fair degree industrial demands for hydraulic power.

The dispute which soon grew up here between the State and private owners of frontage at falls as to whether the use of the power of boatable waters was a private right existing independently of Government permission, has continued down to the era of electricity; and still persists. Some judges from time to time have thought perhaps that they had buried this dispute, but the corpse is dancing on the coffin. Heretofore the dispute did not constitute a serious impediment to industrial progress. To-day it threatens the security of the industrial position which we have attained. While it was incidental only to canalization, the dispute goes to the very heart of projects for regulation of power streams and for the development of many sites where large power remains undeveloped. The dispute relates to a good share of the natural power within the State. Involved in the dispute is the question whether in early canalizations of boatable streams, falls not destroyed remained private property, if such they were, or whether their power was then appropriated by the State. If not then private property, it is even contended that the hydraulic power became confirmed irrevocably in the frontage owner by reason of the State's subsequent failure to put a stop to further private use of it.

It is not intended to argue here the pro and con upon these legal questions, but to suggest for consideration whether it is likely in the end that hydraulic utilities of natural and public waters will be established as an exception to the

rule of public dominion, and as the one and only exception among water uses. We have seen that all other utilities of boatable waters have been clearly within public dominion, and have been developed only by Government or under grace of governmental permission. Is it likely that adequate hydraulic development and adequate stream regulation will be hastened by further denial that there is a governmental dominion over hydraulic uses, or that such improvements will be secured at all if those who control the mill sites and are so eager for such improvements shall be the men who do the denying? It is present private users who contend that hydraulic uses are theirs. But they proceed to say that they may devote this utility to such purposes as they like, and for their sole and private profit, for example, to saw logs, to grind wheat or to generate electricity; that they may even suffer the water to waste if such is their pleasure. If the unregulated power of non-canalized but boatable streams, if the power of canalized streams developed by the State or if the increased power to arise from regulation, if effected by governmental power, may be used by the frontage owner as his own, it is the only utility of boatable waters which he may monopolize.

If in the early days frontage owners on a boatable stream canalized by the State recovered damages for destruction of the fall, the public was not disturbed for the recovery was small. In the enactment a few years ago of the Barge Canal statute the disposition of surplus power and the rights of frontage owners were left by the Legislature untouched. The fact is surprising since the increasing value of hydraulic power was then clearly apparent. The silence of the Legislature on the subject was not commendable. It beclouded a subject already involved and was an invitation to the Courts to dispose of damage claims on the Court's view as to whether it was sound public policy to treat the use of this water-power as private property in perpetuity or to defend it as a public asset. It never was intended, under our constitutional system, that the judiciary should pass on questions of public policy. In the estimate of the cost of that improvement and in providing the means, it was assumed by the legislative and administrative departments that the power of boatable streams was an asset of the public to the extent at least of all the water to be needed for navigation of the streams to be canalized. No fund at any rate was provided for payment of millions in damages, for the taking of boatable stream flow from frontage owners who had been using it for private power and where that use at many sites was sure to be disturbed or prevented by navigation. Only one claim for damages of that sort has as yet been passed upon by the higher Courts and there the State was defeated. The State had developed that particular power years ago at public expense in building a navigation dam and the dam had been maintained by the State. The State had never received a penny in consideration for any supposed grant of a right to divert and use the stream flow at that point for private power. The award carried \$275,000 to cover water-power alone, and that power was less than half of the available power of only one-half the stream at that dam. Other claims like that for Barge Canal construction and on file at the present time and not yet tried, aggregate upwards of \$20,000,000. While these figures include the value of some land taken and some improvements thereon, substantially three-fourths of that sum or about \$15,000,000 represents the claimants' estimates of the capitalized value of the water-power which they have been using gratuitously as to the public and to which they say they have a perpetual right and for which they accordingly demand compensation. If these claims are pressed on the strength of the case decided and awards are rendered for a quarter only of the sums claimed, an appropriation of several millions beyond those already authorized must be made to meet the awards. The claims on file are confined to power sites on the upper Hudson, the Mohawk, the lower Seneca and the Oswego. Claims from the upper Seneca have not yet appeared. While the claims filed relate to certain of the more valuable natural powers in the State they are confined to short sections of only four streams. These claims constitute in their entirety a mere forecast of the volume which the State may expect, on the strength of this decision, to face if it enters on a complete development of streams along any line of improvement not designed for the exclusive benefit of private owners of frontage.

It is significant that only one or two claims of the sort referred to have been pressed for trial although on file for some time. It is surmised that the claimants do not consider it wise to press these claims, for by not pressing them State departments might be led to treat the claimants as entitled to gratuitous use of the much more valuable power to be available when the new improvement is completed. At many sites the hydraulic head will then be greater and the stream flow more abundant.

Frontage owners take the position that if the natural power is theirs, and they claim it, they may use it for purely private purposes and profit; that water developments to improve hydraulic uses shall be excepted from the rule of public control applicable in case of improvement of the same waters for domestic use, for fishery or for navigation. If they are right about the law is it likely that the public, coming to realize the significance of the contention in the light of the growing value of steady power, will venture upon further canalizations? That question does not cover the ground for there is a subject of perhaps greater relative importance both to our industrial interests and general welfare. It is whether we are to have stream regulation so that valuable power actually going to waste may be conserved.

For the last twenty years those engaged in industries to which hydraulic power is of first importance have been diligently seeking stream regulation. After this long effort they are to-day confronted with the stern fact that they have not secured what they sought. Each legislative session reveals fewer legislators who are ready to support bills which bestow governmental power of eminent domain, authorize stream diversion or taxation of any body or which lend State funds or credit for projects in furtherance of mere private benefits connected with hydraulic uses. New York Courts have held not only that the sawing of logs is not of itself a public use of property devoted to such enterprise, and that the benefits which may come to the general public indirectly from the prosecution of a particular industry by private enterprise, however stimulating it may be to industry and to the demand for employment, are not the sort of public benefits which may be secured by direct use of governmental power or of public funds. The Court decisions on this point appeal to reason and are founded on justice.

It is becoming important that in further dealing with this matter many pages of hitherto neglected State history should be studied. Barring the hydraulic power found above the limit where stream flow becomes sufficient for boating, the developed power of this State outside of State canalizations has been made by frontage owners in almost all cases. Barring a few exceptions, however, this has been done under privileges extended by statute and legalizing private use of the power for private profit, and usually for indefinite periods. A general privilege of that character was extended to frontage owners along some thirty streams of the State nearly 100 years ago. Hundreds of privileges of this character have been extended to individuals by name usually for short terms and by private or local acts. The present generation outside the Legislature or sitting in it has little knowledge of this history of hydraulic development. An examination of it is now being conducted by direction of the Legislature, by the Conservation Commission. The history of the watershed of the Genesee in this respect has been made available. It appears that there is not an existing hydraulic development among the many on the eighty miles of the Genesee channel below Belfast which was not legalized either by a general or special legislative privilege of the nature described. At the time these privileges were granted in very early days, as most of them were, the Legislature declared at the same time that the stream channel affected below certain points named, were to be deemed public highways. Those statutes treated diversion for hydraulic power as interfering with the navigation of the highway to be tolerated for private purposes only temporarily and the privileges justly subject to recall. There is considerably over 1,600 miles of stream channels above tide-water which were thus dealt with by the New York Legislature, by statutes remaining unrepealed. Much of the power of the canals has been used under privileges extended by statute, with express provision for recall. The complete history of New York hydraulic developments would be of great value to the public if

available when legislation is proposed for regulating streams to benefit only the few owners of frontage at falls.

It is, of course, true that from time to time frontage owners, beneficiaries of these privileges, have prevailed on the Courts to agree with them in the contention that the right to use these powers was theirs all the while, despite the plain import of statutory history, and to sustain them in the contention that such private right is wholly independent of any governmental privilege. Their success, however, has not been uniform. At the same time these same men have come to recognize that to secure stream regulation the aid of the State is indispensable. But these two positions are utterly irreconcilable as they are learning to know.

That situation has developed legislative bills devised to secure stream regulation but so drafted as to propose protection of the public health and safety as the ostensible objects. Sometimes such bills have been passed. Projects carried on under such statutes on power streams were a misapplication of the theory of such statutes. The valleys of New York through which course our power streams are natural sanitariums. Such projects for power streams are agitated by users of frontage at falls. Knowing now that unless some public purpose such as preservation of health and safety is the declared object of the statute, they know that such legislation would be bad on its face. But those who have studied this subject know in addition that the Courts can look behind a project to discover the real purpose in a given case. The Courts have looked behind drainage projects conducted under statutes intended by their terms to conserve public health and when they have discovered, as they frequently have, a purpose of reclaiming low lands for agriculture in given cases, they have set aside the proceedings. Drainage projects scattered all over the State have come to grief in this way.

When they have been given opportunity the Courts have looked behind stream regulation projects. A few such projects have, it is true, been carried out on power streams, but in most cases many years ago, and where the statutes recited the purpose to conserve public health and safety. It happened in those cases that no one opposed the project at the time, or if they did, the objections were skilfully quieted so that the statutes did not come before the Courts. The device for quieting objections was then as it still is, an offer on the part of frontage owners at falls seeking private benefits, to pay the whole expense of the project. But the Courts know that money paid under guise of local assessments on mill sites may be as purely voluntary as if paid without semblance of compulsion. And if those projects escaped disaster while construction was in progress, they encountered it later in efforts to keep up the works. Projects for regulating the Oswegatchie and the Raquette have had disastrous histories. After the works on the Raquette had been carried away by floods, and when efforts for reconstruction were made, the statute under which the work was done came before the Supreme Court and was held utterly void. It was under a very similar statute that the flow of the Oswegatchie was regulated. The Indian River storage works were quite recently built under peculiar circumstances, without any authority of statute, and in apparent defiance of the forest preserve section of the Constitution. These three are the only storage works accomplished for the intended benefit of hydraulic power in this State and of sufficient magnitude to be worthy of mention. Black River storage, while very beneficial to Black River hydraulic power, was effected ostensibly and in fact as navigation measures. The works may be abandoned any day by the State regardless of the effect upon hydraulic power. It has been indeed fortunate for Black River power users that the works have still been maintained at the expense of the State when for years there has been practically no canal traffic on the Black River to be benefited, and when the hydraulic benefits are private and yield no return to the public.

It stands admitted that many industries now prosecuted on irregular stream flow cannot long compete with those enjoying steady power; that governmental power alone can give us stream regulation and that Courts cannot be deceived as to the real purpose behind a regulation project. What then is to be our policy?

We may admit that the State should foster industry provided a broad public justice is not directly or indirectly sacrificed; that the State is not endowed with the power of eminent domain in order that the use of it should be farmed out as a source of revenue. On the strength of those propositions it has been contended that use of eminent domain should be given to those who ask it and without compensation to the public treasury. But under that contention as applied to hydraulic uses the public would neither get a money return nor a public service. Because some man has the means sufficient to build a railroad across the State we would not give him the power of eminent domain to build and run a railroad to serve himself exclusively. And if a farmer may not ditch across his neighbor to secure drainage because it would be unjust it cannot be unjust if a miller may not take a farmer's land for flowage. It is not unjust to deny use of governmental power to any who would use it only for private ends. No injustice is apt to be committed if the Legislature views this matter as the Courts do and says that these powers of Government shall only be used where a public benefit in the proper sense of that term is to result.

It will make no difference as to this point whether legislation for stream regulation shall provide for use of public moneys and for construction through State departments or for doing the work by private capital and through private companies. Other considerations of sound public policy may be involved, however, in determining on a choice between those two methods when we get ready to act.

Long continued effort for regulation of the upper Hudson and of the Genesee recently came to fresh grief when attempted under legislation of the character described and before the projects had even reached the Courts. Experience then shows that subterfuge does not lead to stream regulation.

Apart from any question over which judges or lawyers may disagree in respect to whether this channel is public or private at this point or that or as to the rights going with frontage ownership, it is clear that grants of governmental power for accomplishing stream regulation ought not to be made, on conditions essentially unfair to the public. State-wide stream regulation which we all believe would promote general welfare as did canalizations need not be expected if it is to rest on discrimination as to use and on private monopoly without return to the public as to benefits.

The people of this State do not wish to be unjust to any industrial interest. They will not be unjust if present differences of opinion, when all Courts come to agree on the water law, are settled by recognizing a public right in these hydraulic utilities of public waters. The public would never withhold from industry the completest use of hydraulic power nor burden the use with unreasonable exactions. It is nothing less than the past unbounded generosity of the public on that score which has since been used as the occasion for denying that the State had any dominion over hydraulic power.

If use of the power of public waters is a privilege founded, as are all privileges, upon franchises, then this one, because hydraulic power has become the basis for serving a daily public necessity for light and power, should henceforth be based on a fair return to the public. If this use when privately monopolized is not a privilege, if it has been misnamed for some two centuries, then the State has no concern in these private uses. The State could not then improve or develop the powers if it would not aid private interest so to do. And in that case power sites on our large and irregular streams may be bought ere long at tax sales.

The theory which seemed to serve the interest sixty years ago of the man who built his own dam and then said that he built under his own right, although the legislative privilege permitting him to construct the dam and divert the flow stared him in the face, has, whether right or wrong in law, bred the trouble which this man's sons encounter when they now ask the Legislature to regulate that stream. And they are no better off in this respect because they may be able and willing to pay for storage dams and flowage ground. The cases in which the Courts have been prevailed upon to ignore history and to disagree with other Courts and say that private use of these water-powers does not rest on privilege, loom up as dearly bought victories now that irregular stream flow

is fast losing its value. Each of them is a stumbling block in the way of industrial expansion dependent in New York on stream regulation; perhaps of industrial salvation of this State. If the water-power at a given site on a boatable stream was private property it is because some judge has so decided. That interpretation of the law has been applied at a few only out of the total falls in the State, and if unsound the error need not be followed by other judges in cases to be tried hereafter. The judicial vision of yesterday sets no bounds to the judicial vision of to-morrow. That private property of one man may not be taken by another for private use is a principle of our Constitution and is not likely to be dishonored.

The time is here for those who so capably conduct and could so successfully extend private industries with conserved water-power to look these facts squarely in the face. They should first seek consistency and either admit that use of the hydraulic power of public waters must be devoted to public benefit or prevail on the New York Courts, if they can, to hold that private property of one man may be taken for private use of another. No wise man will fail to see which alternative presents the greater hope of success.

It is reasonable to believe that further water developments must rest on principles of justice to the public. To fail to seek that is to court failure. Under no other policy may we surely get stream regulation under the present constitutional system of State Government. (Applause.)

Mr. Decker left the hall immediately after he had delivered his paper, as he was obliged to return to Albany.

MR. V. K. KELLOGG (Watertown, N. Y.): Mr. President, I am sure that we are all deeply indebted to Mr. Decker for the presentation of his views upon the vast question of the development and ownership of hydraulic privileges in the State of New York, but the position he entertains is so inconsistent with that entertained by certain other people, especially those people who live in the valley of the Oswegatchie and the Black, the St. Regis and the DeGrasse, that I deem it unfair to those people that they shall not have an opportunity to present to this learned gathering,—to stand here on a parallel and to be received at the same time—their views concerning the attitudes which the public and the Courts should take to them, which they say has been universally recognized as individual property as contradistinguished to public property by the Courts of all common law countries since the very initiative of jurisdiction. To that end I ask at some time during this meeting opportunity be given to some representative of the idea which I have suggested, that they be heard.

PRESIDENT HILL: Mr. Kellogg, let me say, that you are to hear this afternoon from an exponent of the other side of the question, Senator Ferris. I don't know how many others,—

SENATOR FERRIS: May I interrupt long enough to say that I disclaim taking the other side.

PRESIDENT HILL: Another view?

MR. FERRIS: Another view.

MR. P. W. CULLINAN: I have understood that upon the reading of any paper it has been the policy of this Association to give to anybody an opportunity to express his views on the same subject. I move you, sir, that if Mr. Kellogg desires to present views which are antagonistic or have any bearing upon the question which has been so fully exploited by Mr. Decker, that he be given the opportunity at such time as he may desire to present those views.

The motion was carried. Mr. Kellogg expressed the desire to follow Senator Ferris in the afternoon.

CO-OPERATION IN JAMAICA BAY PROJECT.

Nelson B. Killmer, Brooklyn, spoke on "National, State and City Co-Operation in the Development of Jamaica Bay and Waters Adjacent Thereto." Mr. Killmer said:

We are living in an age when the principle of co-operation has been utilized to such an extent in the development of business interests that individuals, firms and single corporations, have become amazed and even frightened and because of the success attending these combined efforts have been led to denounce such combinations as illegal trusts and in some way come to the conclusion that they are injurious to the general weal. Be that as it may, the principle involved has thoroughly demonstrated the fact that worthy projects however meritorious must of necessity advance much slower when backed only by the efforts of individuals or a comparatively small number of persons. Much of the progress achieved in the twentieth century and many of the public improvements and developments are the direct result of this combination or co-operation of effort.

In the development of Jamaica Bay probably this co-operative principle has been more largely exemplified than in any public improvement undertaken. This land-locked harbor at the edge of the ocean, easy of development and in close proximity to the greatest city on the continent, had remained practically useless for the purposes for which nature seemed to have intended it, and the City or the General Government when their attention was called to its availability, seemed to look with longing eyes and say it was desirable and ought to be improved, but still refrained from doing it. It was not until the engineers of the two Governments were brought together and made to see the necessity for co-operative action that any progress was made and then satisfactory results were soon attainable.

The navigable waters of the Bay and the creeks and basins emptying into it were exclusively under the jurisdiction of the United States Government and the City would have been a trespasser to have undertaken the development. The City on the other hand was the principal owner of the shore front and the General Government had no jurisdiction there. Then again it was found that the State had more or less authority over the land under water and of the islands and hassocks in the Bay. Hence the problem to be solved was how to get such co-operation on the part of the three Governments that would result in securing the early development of the Bay at the least expense and with fair treatment to all. To this problem the friends of the improvement directed their attention, with the result that an agreement was arrived at that is not only unique in itself but is exceptional, in that it secures the development at the lowest cost to each Government.

Through the action of the Legislature the State ceded all its right, title and interest it had in the Bay to the City for the purposes of the development, and thus it co-operated by giving what was at the time practically valueless, but which through the development becomes of great value to the City, and which development could not have been undertaken while the question of divided ownership was involved. The United States Government found that if it should undertake to do the dredging of the main or inner channel, it would necessitate the carrying many miles out to sea, or the purchasing of lands around the Bay on which to deposit the dredged material. The City on the other hand found it would need all this material to fill in behind the bulkheading and its thousands of acres of meadow land and hence an understanding was arrived at by which the City was to do the physical work of dredging the main channel and thus utilize all the dredged material, and at the same time there would be no expense involved by either Government in taking the material away. The City will be reimbursed by the United States Government for the dredging at the rate of eight cents per cubic yard. The United States Government is now doing the physical work of dredging the outer channel, it not being practical for the City to utilize the material dredged from that channel and it is taken out to sea. The total estimated cost to the National Government for work already agreed to be paid for by it is \$7,430,000, and we are quite sure there will be no trouble in securing any additional amounts from any future Congress whenever the

Government engineers make recommendations for such appropriations. The City, that of course is the chief beneficiary, has had to do its part because the conditions of this co-operative agreement were all based upon each doing its share of the work, and money was not available until these conditions were fulfilled. The United States Government required the City to show its good faith in the project of developing the shore front, to the extent of appropriating at least \$1,000,000 before its money was available or before the dredging of the outer channel could be undertaken. The State also made its grant to the City conditional, and the law was not to take effect until the City and National Government had actually undertaken the work, or until the City had set aside \$1,000,000 for the purpose.

Now all the conditions have been met and the United States Government is at work and the City Government through its Sinking Fund Commission and the Board of Estimate and Apportionment have adopted the comprehensive plan of development prepared by Dock Commissioner Calvin Tomkins, which includes not only the creation of the wharves and piers but also a development for warehouses, railroad terminals, manufacturing and industrial establishments that can meet all the requirements of an up-to-date harbor. They have so far appropriated \$1,075,000 towards the enterprise, most of which is for securing additional land upon which to place the dredged material and for docks and piers. The survey and plans for dredging the first section of the main channel have been completed, the contract drawn and ready for the printer, so as to be advertised for public letting with the prospect of work being actually begun within the next sixty days. The work on the balance of the main channel should follow in quick order as the National Government made provision in the last Rivers and Harbors bill for reimbursing the City monthly, as fast as the work is done and appropriated \$300,000, which is now available for work to be done this year or until another appropriation is made in next year's bill. Therefore, there can be no excuse for delay on the part of the City as the National Government is prepared to finance that part of the undertaking.

One of the waterway connections adjacent to Jamaica Bay that has already received attention and which is destined soon to be made useful and serviceable and should become part of the canal system of the State, is the Coney Island Creek connecting Gravesend and Sheepshead Bay. The co-operative principle has been at work here, the City and Federal Government having both considered plans for its development. This was formerly a navigable stream, but through misapprehension or design was partly filled up and some portion taken possession of by the railroads leading to Brighton Beach and Coney Island, not, however, with the consent or approval of the United States Government and it has ordered the waterway open. The City for sanitary reasons has taken an interest in the matter and prepared plans for opening the waterway for use as a drainage canal, not, however, in opposition to its use for commercial purposes, and the City stands ready to co-operate with the National and State Governments to develop it for the best uses to which it can be made available. In my opinion the State should step in here and co-operate with the other two Governments and create a canal that should become part of the State system subject to an equitable arrangement made with the City authorities. It would then be an inside protected waterway for small craft plying between New York Bay and Jamaica Bay and beyond on through the waters of the south side of Long Island. It also would certainly be a very desirable link in the Intra-Costal chain of navigation that is to be constructed from Maine to Florida, considered either as part of one of the main arteries through Long Island or as one of its feeders. This Association should go on record urging the three Governments to hasten the building of this waterway.

The several bays on the south side of and extending the whole length of Long Island have for many years been considered a natural highway or waterway with possibilities of development for commercial and recreative purposes hardly to be equalled anywhere. Jamaica Bay was the outlet or the key to the situation and without its development the south side bays could be but partially utilized and for local purposes only. The development of Jamaica Bay having been provided for and the work under way, the time has now arrived when the

several connecting links should be made that will unite Jamaica Bay with Great South Bay and it, with Moriches, Shinnecock, Great and Little Peconic Bays, and Long Island Sound. To do this will require the dredging of but a few miles of sandy soil at a nominally small cost but which will give a magnificent water route of practical service of over 100 miles in length. It would place the people of Long Island with their marvelous agricultural productions in direct touch with the metropolis by the cheapest method of transportation and greatly benefit both producer and consumer. It would give opportunity for the development of great manufacturing industries the whole length of the Island which would quickly be availed of and through the local possibilities the whole State would be greatly advantaged. A portion of this waterway has already been recognized by the State as worthy of its consideration and links in the chain at two places have been constructed by it in a modest way during the past. The National Government's attention has been called to the needs of the locality and the opportunities the development offers and an investigation ordered of the project, which investigation has been followed by ordering a survey upon which to base governmental action. The report of this survey is now awaiting the action of United States Engineer Col. S. W. Roessler. The City cannot be expected to take part in this development, but here in my opinion is where the co-operation of the National and State Governments could be utilized to a very great benefit of all concerned. Let the two Governments have their engineers come together and formulate plans that can be made acceptable to both and create such a waterway as will serve the needs of this locality not only, but also become a part of the great Intra-Costal highway that will furnish a safe passage for traffic destined to all sections of the Atlantic coast. This organization should not adjourn without taking definite action that will help to hasten this important project.

When the State became a partner in the Jamaica Bay development and ceded valuable properties for the purpose, its action was based upon the consideration of advantages that would accrue to the State by such action. In a general way the State is advantaged when any part of it is increased in numbers or wealth, and so by the development of Jamaica Bay which will add greatly to the business and wealth of New York City, as an integral part of the State, it benefits the State. But that was not the main reason for the Legislature's action. The State had entered upon an extraordinary expenditure for enlarging and deepening its canals and in order to make them effective and secure the business that it was hoped and expected their enlargement would attract to the Port of New York, a Commission was created to select proper terminals. This Commission had unusual powers given them and made a thorough investigation of the subject, taking two years' time for their work. They took up every phase of the matter and discussed different locations in the harbor where freight of every nature might be received or discharged, recommending certain localities for the reception of freight for certain lines of trade, but specifically recommended that what they would term the sub-port for the Port of New York for the export and import business and which in their opinion was necessary in order to secure the shipments here of the products of the great West and Northwest, should be located at Jamaica Bay, and hence the State's direct interest in having the Jamaica Bay development speedily completed so that it would help to make its \$108,000,000 investment a success. Having selected the place for the proper terminal for the export and import business at the Atlantic seaboard, how to reach it was then taken up, discussed, and reported upon. They showed that the canal barges with business destined for the foreign and seacoast trade could reach Jamaica Bay terminal by way of the Narrows and the outside route through Rockaway Inlet or by the inner route through the Gravesend and Sheepshead Bay waterway; but by either route they must go down through the congested part of the harbor now overcrowded with larger craft and seeking relief by securing accommodations in other sections of the port. Their opinion was, however, that not only should the through business of the harbor be segregated from the so-called local business, but the manner of reaching the terminal should be segregated also, especially when by so doing it could be reached in the most direct and easiest manner with a saving of nearly twenty-

five miles in distance and several hours in time, and they recommended that an artificial waterway be constructed between Flushing and Jamaica Bay which they said offered great advantages from a local point of view, but as part of the canal system of the State it was absolutely necessary, so that the canal barges could pass from the Hudson River at Spuyten Duyvil through the Harlem Ship Canal to the East River at Flushing and thence reach the seaboard terminal through this proposed canal. As most of you know, the Barge Canal Terminal Commission report resulted in the Referendum bill which was approved by the people of the State at the last election. That referendum provided for the export and import terminal at Jamaica Bay, but because of constitutional prohibitions could not and did not contain a provision for the artificial waterway to connect therewith. Their recommendations as to this were expressed, however, in another bill that was presented to the Legislature by the Executive Committee of this New York State Waterways Association, which bill provided for a survey of the canal by the State authorities and carried an appropriation therefor of \$5,000. This passed the Legislature with but little opposition (as a similar bill has passed two previous Legislatures before the report of the Terminal Commission had been made). The Governor failed to give it his approval but did not file any reason for opposition to the measure, simply saying there were no funds available for the purpose.

Now in view of all that has officially been done by the Commission, the Legislature and the people, regarding this Flushing and Jamaica Bay Canal and the locating of an export and import terminal at Jamaica Bay, as well as the action taken by the New York State Waterways Association last year at Buffalo, I believe I am justified in saying that this Convention should take such action as will prevent any further delay in the building of this canal, and see to it that no Governor is elected this fall who would not include in his recommendations to the Legislature the construction of this canal as part of the canal system of the State. I am saying this advisedly, as I believe there is no project under consideration or construction by the State of so much vital importance to its interests as the early completion of the canals with proper terminal connections, and none that has received more official investigation and public consideration, and approval.

The incoming Governor will send a message to the Legislature regarding many subjects, but none that will be of so much benefit to the citizens of the State as this would prove to be, and hence the justification for such action. The co-operative principle has already been applied upon a considerable portion of the Flushing-Jamaica Bay route; the Federal and City Governments having agreed upon plans for the deepening and widening of Flushing River from the Bay to a point some three miles inland, and in my opinion the State should step in and construct the balance of the eight miles and connect the two Bays in time to utilize the same when the main canal of the State is finished.

Since our last annual meeting much has occurred to cause us to reaffirm the position we then took in favor of hastening the construction of this canal and a Barge Canal traffic terminal at Jamaica Bay. I then gave as one of the very important reasons for their construction, the competition for the business put forth by Canada, especially at Montreal where extensive terminal facilities had been provided. During the past year Canada has determined to widen and deepen the Welland Canal at an estimated cost of \$45,000,000, which will admit vessels from Lake Erie to pass through it without breaking bulk at Buffalo, and become even a greater factor than ever for taking business from the Port of New York. No wonder they are building another million-bushel grain elevator at Montreal and adding to her terminal facilities. Boston, Newark, Philadelphia, Baltimore and Newport News during the past year have been planning additional developments for their waterfront terminals so as to permit of the cheapest and most convenient trans-shipment of all products with the least transfer or terminal charges. What has New York been doing? Very little. Aside from making preparations for the Jamaica Bay work, practically nothing has been accomplished. It has just been reported that the State Engineer and Surveyor has now definitely located the sites for fourteen Barge Canal terminals in the harbor of New York as required under the Referendum bill. It is stated that acquisition of the needed land for three of these terminals is now proceed-

ing. An analysis of these locations will show that Manhattan has five piers for various terminals on the Hudson waterfront and seven piers on the East River waterfront. The Bronx two piers, Newtown Creek two piers, and South Brooklyn two piers. All of them are so situated as to be convenient for certain lines of business peculiar to their locality. Now if the State Engineer succeeds in securing the land for the terminals he has selected (and bear in mind that the Commissioner of Docks has recently publicly stated that the demand for waterfront room is so great and the supply so limited that he has now thirty-three applications from steamship and railroad companies for dockage room that he has been unable to furnish) but if the State Engineer succeeds, to what extent will these terminals be the means of stimulating or increasing the great volume of traffic over the canals to this port that will make the success of it for which it is enlarged. Only five piers in five different localities on the Manhattan waterfront from the Battery to 135th street for terminals, and it is going to be very difficult to get even these for canal barge business, but if secured the local business alone should be sufficient to make them doubly congested and certainly there will be no opportunity to attract or divert to them the through coastwise or foreign business; and what is true of the North River waterfront is true of the East River, the Bronx, Newtown Creek and South Brooklyn. Take the latter at Gowanus Basin where provision was made for the expenditure of \$4,500,000 for a terminal, and the result is the creation of one with but two piers only. Will not the local manufacturing industries of that section utilize them to such an extent that it will not only be congestion but suffocation?

The simple fact is, gentlemen, that property is so valuable in the present harbor of New York and the demand for waterfront facilities so great for the use of the larger vessels that there really is no room for the canal barges and of necessity facilities must be provided elsewhere. To make the canal a success it has got to transport the grain of the West and Northwest. The terminals as now provided for cannot and will not secure this grain trade. Jamaica Bay alone can and will furnish these terminals and attract the trade over the canal if the Flushing-Jamaica Bay route is constructed through which the business can reach the seaboard in a direct and easy manner and find such terminal facilities as will make the trans-shipment expeditions and economical.

Gentlemen of the New York State Waterways Association, you also are a co-operative institution, made up of representatives from various organizations for the purpose of improving the waterways, rivers and harbors of the State with all practicable speed to an extent commensurate with the fullest development of our commercial, manufacturing and agricultural interests. Will you prove to be equal to your opportunities and your responsibilities? Will you have the courage to back up your convictions, because convictions you must have had, in order to adopt and set forth a declaration of principles. Without courage your declaration of principles amounts to but little. In my opinion it is within your power to hasten the development of every waterway and harbor in the Empire State by exercising an influence that would compel the Executive and Legislature of the State, and the Congress of the United States to favor any measure you may approve. Will you take such action at this time that will make your influence felt and your deliberations effective? (Applause.)

Secretary Francis H. Lamon, Chamber of Commerce, Watertown, announced that at 2:30 o'clock the ladies present would be given an automobile trip about the city, starting from the Woodruff House; that at the conclusion of the present session a group photograph would be taken and that an automobile trip for all delegates and their ladies would be given the following forenoon to the St. Regis paper mill at Deferiet and on to Carthage and back to Watertown.

President Hill announced that in the absence of Hon. John D. Kernan, Mr. Patrick W. Cullinan, Oswego, would act as Chairman of the Committee on Resolutions.

Chairman Cullinan called a meeting of the Committee on Resolutions, to be held at the conclusion of the afternoon session.

Adjournment until 2 o'clock was taken.

AFTERNOON SESSION.

Meeting called to order by President Hill at 2:25 P. M.
Secretary Frank S. Ellsworth present and acting.

BARGE CANAL CONSTRUCTION.

The first paper of the session was by Mr. Noble T. Whitford, civil engineer, Editor of the Barge Canal Bulletin, upon "Barge Canal Construction to Date." Mr. Whitford said:

At former Conventions of the New York State Waterways Association, papers have been read on the construction of that greatest of waterway projects in the State, which is also one of the greatest waterway projects in the world — the Barge Canal — and accordingly it would not now be appropriate for me to take your time to tell you about the general features of the enterprise, since these have been told so often that they should have become well known. However, there are a few somewhat unusual and interesting forms of construction that have been developed in the prosecution of the work and your President has suggested that I describe these briefly and then tell something of the present status of construction.

I believe that the latest Barge Canal paper read before your Association was presented before work upon the Cayuga and Seneca branch was begun. It may be well, therefore, to enumerate, with this addition, the mileage of internal waterways that are navigable for vessels of Barge Canal dimensions and the total I obtain may surprise those who have not made the enumeration. But, first, by way of explanation, it may be said that beginning at Troy, the Erie branch proper stretches across the State to the Niagara River at Tonawanda. Thence Lake Erie is reached through Niagara River, whose improvement has been assumed by the United States Government, and access to the sea from the eastern terminus is obtained through the Hudson River, which is also under Government control. Midway in the course across the State, Oneida Lake is utilized. The length of this lake should, of course, be included in the total mileage. Likewise Cayuga and Seneca Lakes may be included, since the Cayuga and Seneca branch runs to the foot of each and there is a short spur of the canal at the head of each. In like manner Lake Champlain, which is joined to the system by the Champlain Canal, should also be included. Now, to summarize, the Erie branch, including the Troy-Waterford and Tonawanda-Buffalo stretches and the Syracuse and Rochester spurs, but exclusive of that portion of Oneida Lake on which no work is needed, is 343.5 miles long. The Champlain and Oswego canals are 61.5 and 22.8 miles long, respectively, while the Cayuga and Seneca branch, including the Ithaca and Watkins spurs, but exclusive of such portions of Cayuga and Seneca Lakes as need no deepening, is 27.3 miles in length. Thus the total mileage of canal improvement is 455.1 miles. The portions of Oneida, Onondaga, Cayuga and Seneca Lakes and Lake Champlain which are naturally deep enough, together with the Hudson from Troy to New York, add 339 miles, making a grand total of 794 miles of internal waterway on which Barge Canal boats may navigate. This enumeration, however, does not represent all that is being done to build the Barge Canal. To supply the needed water, reservoirs and feeder channels are required. The Glens Falls Feeder must be improved, two new great reservoirs — Delta and Hinckley — must be added, with a channel to divert to a different watershed for the latter, while the Black River Canal and a considerable portion of the present Erie Canal must be retained as navigable feeders, to deliver the water from an extensive system of reservoirs in the hills to the south of the canal and in the Adirondack forest to the north — a system of water supply that the State has been building for its canals during the last eighty years and which it must now retain for the new canal.

From all this and from the multitude of other facts which I have not time to recite, there can be no doubt that New York State is accomplishing a great engineering work, but it is surprising how few of its citizens appreciate the magnitude of the undertaking or the skill required to solve the problems of con-

struction. Nearly everybody in our country can tell something about the canal that will soon join the Atlantic and Pacific oceans, but here in our very midst is a channel, ten times the length of the Isthmian Canal, involving quantities almost as large as those at Panama (but being built for about one-quarter the cost),—a project, moreover, that as an engineering feat unquestionably excels the Panama Canal—and many of our own people scarcely know that anything is being done.

Perhaps the very nearness of the enterprise detracts from its seeming magnitude. That it is somewhat appreciated by others is shown by certain recent events. Twice during the past summer parties traveling by special train have made the trip across the State to inspect various portions of the canal. These parties were composed chiefly of representatives from foreign lands,—men who are eminent in their home countries in engineering or other scientific pursuits. Also there have come requests from a half dozen organizations for Barge Canal exhibits to be shown at their conventions or expositions. And they have desired these exhibits sufficiently to pay the cost of transporting, installing and attending them.

If the people of the State could take a trip similar to those taken by the visitors I have mentioned, they would undoubtedly be convinced that much is being done and that the State is getting full value for its expenditures. It is upon such a trip that I would take you—in imagination. In reaching the place of this meeting doubtless many of you have passed along the route followed by these foreign visitors and have seen the same structures which drew their attention, but you, of course, did not have time to stop and observe the operations of these structures. Those who came up beside the lower Mohawk may have seen the new bridges that span the river. Some of these structures have been serving their intended purpose during the present season, not as bridges, but in damming back the water and creating pools in which the contractors' dredges have floated, to excavate the new waterway.

In a river subject to disastrous floods like those which sweep the Mohawk Valley, solid masonry dams of the fixed type would prevent the rapid discharge of surplus waters and imperil the existence of adjacent property. For this and other reasons, it was determined to build movable dams. While these dams by themselves alone will not prevent floods, they at least will not aggravate natural flood conditions.

The style finally adopted is known as the bridge type, with Boule gates. Of the various designs of movable dams that have been tried throughout the world, two are now recognized as best—the needle-dam and the gate-dam—since they combine in the greatest degree economy in first cost and simplicity of operation. In the opinion of experienced engineers the bridge type excels all in certainty and ease of operation.

In general appearance these eight bridge-dams on the Mohawk between Schenectady and Little Falls resemble ordinary bridges with the usual abutments and piers and steel superstructures. But from the downstream side there is suspended a series of steel frames, fifteen feet apart and pin-connected at the top to form a hinge joint, extending to a concrete sill which stretches between abutment and pier across the river bottom. Each frame carries an upper and a lower gate, of heavy steel plate, which may be raised or lowered, rolling on a track on the frame and moving somewhat like an ordinary window sash.

When the gates are closed and the structure is in operation as a dam, the bottoms of the lower gates rest on the concrete sill and the tops of the upper series form the crest of the dam, to regulate the elevation of the water-surface at ordinary stages. Whenever it is desired to permit the escape of more water than will spill over the crest, the gates are partly raised, one or all, and the water passes through the aperture thus provided. For convenience in regulating the stream the gates are divided horizontally into two tiers, as already stated, and may be raised successively as required.

In time of extreme flood or during the winter season, both gates and frames may be entirely removed from the stream, leaving an unobstructed channel, simply spanned by a bridge. To accomplish this the frames may be swung up under the bridge floor to a horizontal position, carrying the gates with them. Upon the bridge floor tracks are laid, on which run traveling winches, which are

provided with machinery for winding or unwinding the heavy chain cables that operate the gates and frames.

Besides these eight bridge-dams on the lower Mohawk, structures of a similar character are planned for the Seneca River at May's Point and the Genesee River near Rochester.

If we could now quickly transport ourselves to one of the completed and fully equipped locks, as for example the one at Whitehall, which during the past season has been in full operation, passing fleets of boats, we should have a most striking demonstration of the superiority of the Barge Canal over the old waterway. Entering the power house at the foot of the lock, we should find an electrical equipment, in duplicate, complete and of the latest approved design in every particular. Within fifty seconds after water has been turned into the turbines, lights in controller cabinets on the coping indicate a readiness to begin the lockage.

Probably nowhere along the line of the canal will the march of progress be seen more distinctly and the contrast between the old and the new appear more sharply than in comparing the Barge Canal lock-tender with his brother of the old canal, who, with his back against a great balance-beam and his feet pressing a cleft pathway, might have been seen, straining every muscle to close one of the gates, then running across a bridge over the lock to close the opposite gate; next racing to the other end of the lock and out upon the gates to seize and raise the valve lever, and after the boat had been raised or lowered, repeating the operation—all of which had to be performed by main strength at each lockage and even then only 240 tons of cargo had been locked through. The Barge Canal lock-tender, at his operating stand near one of the gates, throws successive switches, first to open the buffer-beam and gates for the incoming vessel, then to draw into the lock by means of a capstan the boat or, perhaps, a pair of boats traveling tandem or a fleet of four, with their loads of 3,000 tons or more to the pair or fleet. Another switch opens the valves for filling or emptying the lock, both gates and valves being controlled from either side of the lock without crossing over. All of these operations are performed by electrically-driven machinery, which receives its current from the nearby power house, the head of water created at the lock furnishing the motive power.

At Whitehall, the lock we have been visiting in imagination, the boats of present canal dimensions are being locked through in groups of six, since they are towed up the lake in fleets of a dozen or more.

At some of the completed locks records have been kept to determine the average time for performing a lockage. Assuming that the lock is ready for the entrance of the boats, the time required for hauling a fleet into a lock is seven minutes and during this time the upper valves are being closed, which operation requires one minute. As soon as the fleet is in the lock, the upper gates are closed and this requires forty-five seconds. The attendant walks from the upper to the lower end of lock in one and one-quarter minutes. The opening of the lower valves requires one and one-quarter minutes. The emptying of the lock takes five and one-half minutes and the opening of the lower gates, forty-five seconds. Then the getting of the fleet out of the lock consumes five minutes, making the total time for a complete lockage, twenty-one and one-half minutes.

There are some half dozen of the locks that are complete and equipped with electrical operating machinery. Several of these are so located that canal traffic has been turned into them and they are in actual operation. There are only a few of the whole fifty-seven locks required that are not almost completed, except for operating equipment, and of these few, all, except the one at Scotia and three on the Cayuga and Seneca branch, are started and most of them are well advanced.

The first Barge Canal lock to be used in regular canal traffic is now completing the third year of its service. This is one of the locks at Oswego—known as a siphon lock, the only lock of this type on the canal and also the first of its kind to be built in America and the largest lock to which the siphon principle has yet been applied.

In all Barge Canal locks the chambers are filled and emptied through culverts running within the side walls and having the necessary side openings, entrances and outlets. In all save the siphon lock the flow of water is con-

trolled by vertically-moving valves, operated through cables by electrically-driven machinery. In the siphon lock, however, heavy machinery is dispensed with and the flow is controlled by comparatively small, hand-operated valves.

With a lock of the siphon type the general design of the culvert is similar to that of ordinary type, except that at the upper and lower ends the culverts are curved so as to make necks, which rise a little way above the highest water-level and which at the same time are shut off from all communication with the outer air, except through the operating pipes. The water is set in motion by using the difference of head to create a vacuum in a storage tank in each wall, thus starting the process of filling or emptying, which afterwards completes itself automatically and also, experience has proved, automatically restores the vacuum in the tank, so that all is ready for the next operation, and the actual movement of the water is controlled by two four-inch valves at each end of the two lock walls.

This siphon lock has been very satisfactory in its operation, as have also some siphon spillways on the Champlain Canal. These structures are something new, having been developed in Barge Canal design. They are entirely automatic in their action and have solved a problem in contracted locations where ordinary spillways cannot be used.

If some one of you, during the early part of the present year, had stood near the dam that holds back the water to form the Delta Reservoir, he might have seen the last shovelful of concrete laid to complete that great structure. This dam, which stretches across the Mohawk with a length of 1,100 feet and a height of 100 feet above the lowest foundation, is the chief feature of one of the two projects that will add two lakes to the map of the State. The Delta Reservoir, or Delta Lake, as the people in the vicinity prefer to call it, is four miles long and two miles wide at the base of its triangular shape. Its capacity is 2,750,000,000 cubic feet. Although built primarily for supply purposes, its regulating capacity will be considerable. The present low-water flow is from 100 to 150 cubic feet per second and the maximum flood discharge of which we have record is about 8,200 cubic feet per second. It is estimated that, when the gates are properly regulated, the reservoir will limit all summer floods to about 2,500 cubic feet per second and winter floods to 2,600 cubic feet per second, thus saving much damage to property.

Work is now progressing on the second great reservoir, that at Hinckley, which is located in the foot-hills of the Adirondack Mountains, where the drainage basin of West Canada Creek above this point lies, for the most part, in the counties of Hamilton and Herkimer and has an area of about 372 square miles. The dam for this reservoir will be, in the main, an earthen structure, with a concrete core wall. Its total length will be 3,800 feet, the masonry portion being 500 feet long. The reservoir, which will measure thirteen miles long, counting both branches, has a capacity of 3,445,000,000 cubic feet. In regulating floods this reservoir also will have considerable influence. The natural flow of the stream has a wide variation, ranging from 110 cubic feet to 40,000 cubic feet per second. It is estimated that proper regulation will reduce a flood of 40,000 cubic feet to one of 19,000 cubic feet per second, or less than half of the maximum rate.

Concerning the present status of the work it may be said that the value of work under contract to the first of the present month amounted to \$76,394,089, while the value of work done on these contracts to the same date was \$49,058,837. There had been put under contract 424.6 miles of canal, which is 96 per cent. of the whole length to be improved.

The chief items of work are excavation and concrete. In round numbers there have been 70,000,000 cubic yards of material excavated — out of a total of 110,000,000 cubic yards in the whole project. About 3,000,000 cubic yards of concrete are necessary. Of this amount some 1,700,000 cubic yards have been laid to date.

During 1911 work to the value of \$15,362,284 was accomplished. This amount was about three-eighths of all that had been done up to the beginning of the present year. The record for 1912 will probably be equal to or exceed that for 1911 and this amount will bring the total to about \$56,000,000 at the close of 1912.

At the State Fair held in Syracuse last week there was exhibited a model of the flight of Barge Canal locks near Waterford. Upon a placard accompanying the model, comparison was made with the old canal in that vicinity and this phrase was used "Comparative Efficiency, considering size, speed and number of lockages, old canal, 1; Barge Canal, 14." I mention this because it brings out a fact not generally recognized, namely, that the new canal will be equal to fourteen canals of the present dimensions. Not only is this true of this particular section, but the same or a still better ratio holds true of the whole stretch of the Barge Canal. (Applause.)

PRESIDENT HILL: This presents a very interesting resume of what has been accomplished. I think we are all pleased to hear the accurate description which has been given of the construction and operation of the locks and dams. We are very grateful to you, Mr. Whitford, for your kindness in presenting this paper.

WATER TRAFFIC AND ORGANIZATION.

The next paper was by Hon. Winslow M. Mead, State Canal Commissioner, on "Water Traffic and Organization." Mr. Mead said:

There are two matters that you have suggested since I have been here to-day that I might refer to briefly. One was by Chairman Hill in connection with the powers and the duties and the manner in which those powers and duties have been discharged by the Land Board; the matter of giving away or ceding the rights of land under water. It may be interesting to you to know that while most of those gifts are really due to the manner in which the old country dealt with this country that she had to pursue the same methods at home. I think it is the practice that has always obtained on the continent, so far as I could ascertain, that the waterfront, the title to the waterfront was vested in the people and that that title could not be given away, sold or otherwise disposed of. For instance, the City of Hamburg, it being a free city, has entire control over the waterfront, and even the Hamburg-American Company, which has perhaps the largest fleet of merchant vessels in the world, is compelled to go to the State for all its privileges for the waterfront. Those privileges are granted for six months only, and the lease is renewed at the end of six months only in the event that the Hamburg-American Company can show she has made good use of the privileges she has enjoyed.

The really important lesson bearing on traffic problems which Continental Europe teaches is, that canals and rivers are a complement to instead of competitors of railways. In Germany, particularly, this is the dominant principle which governs and which has resulted in placing the German Empire in the forefront so far as water-borne traffic is concerned.

A close study of navigation questions clearly reveals that there, as here, when the period of railway construction first set in, it was taken as a matter of course waterways could be neglected. The result of this assumption was that for a considerable period canals and navigable rivers *were* neglected. But this period of neglect ended when a study was made of the cost of transportation of bulky products. It was found that such products, if transported by rail, must be transported either at a loss or that the rate must be so high as to render transportation almost prohibitive. It was also found that if water transportation were to be eliminated from the situation, a very great extension of railways must be made, an extension much beyond the profitable point; and further that what may be termed the coarse commodities and bulky freights must be side-tracked and give way to the perishable and more valuable materials required to be delivered at their destination promptly.

It was a full realization of these facts and the discovery of the annual loss, which in time, brought about a system of adjustment on the Continent whereby, though there still may be rivalry, as between railway and waterbound traffic, generally speaking, each interest recognizes the value of the other and a harmonious general policy obtains.

A very good evidence showing that water transportation is a complement to and not a competitor of railway transportation may be found in the fact that

in Germany where both the railway and canal systems are owned and controlled by the Government, water transportation has been extended, developed and fostered as in no other place in the world.

Population on the Continent is of course very much denser than in this country, and while for ages the tendency has been toward centralization, that is to say, community dwelling, as against isolated dwelling, so that as a whole Continental cities have seen a growth and expansion equal to cities in the new world, yet the development which has taken place along the River Main and around Berlin, in what is known as the Mark Waterways district, presents one of the wonders of the Continent. This development is not of the haphazard kind. It shows from every angle careful, energetic, painstaking organization. Even the agricultural interests, and this region is primarily an agricultural one, have formed co-operative companies and erected stores along the waterways for the distribution of agricultural products.

Generally speaking the waterways of Germany are free of toll. Though the head of the Empire may have won the title of "War Lord" and though the maintenance of the army and the extension of the army and navy may be a burdensome tax on the people, not all or nearly all the revenue raised goes into battleships and army equipment. The Prussian Government for the maintenance of its rivers during the last several years has expended moneys at the rate of \$1,200 per mile and for the maintenance of canals \$900 per mile, and these expenditures are outside of the extension and improvements still going on. They are also outside of the expenditures for the replacement of docks, harbors and quays. One result of this careful and intelligent policy of development is that nearly one-quarter of the traffic in the German Empire at the present time is water-borne.

A similar policy obtains in Belgium, though here instead of the waterways being free, a small toll is exacted. In spite of this exaction, however, last year practically 40 per cent. of all freight moved in Belgium was carried on the canals, and the advantages of these canals is manifest when it is reflected that the water rate combining long and short hauls is only 60 per cent. of the railway rate on all goods carried. Here also, the railways are Government owned, but the moneys expended annually for the last several years for the maintenance and upkeep of the canals and rivers of Belgium exceeded that expended on the railways.

It is possibly not quite fair to cite Holland as an example of what can be done in water transportation, on account of the peculiar physical conditions which there obtain. It is of interest, however, to note that in Holland where the railways also are Government-owned and where a portion of the waterways only are free of tolls, 90 per cent. of all traffic is water-borne.

Reference has been made to the phenomenal growth of cities in Continental Europe. There is one noted exception to this—the City of Strasburg. Of all the cities within the German Empire, Strasburg alone has seemingly stood still. To a visitor within its gates the only striking thing aside from its Cathedral clock, and here no pun is meant, is the evidence of death and decay. Strasburg seems to be as free from commercialism outside the sacristy of the Cathedral as it is inside, if not more so. It may be but a coincidence, but—even its beer is hardly palatable in comparison with that of other German cities. Guttenberg, who set up his first printing press within its sacred and moldy precincts, has been dead three centuries and more, but the only thing having a semblance of newness and life within the city's gates when these observations were made, was a fresh floral piece placed at the base of the shaft erected to the printer's memory. Here they still bear their dead through the streets on palanquins carried by paid pall bearers; and the only shop windows which breathe a spirit of enterprise are those of the undertakers, which are elaborately decorated with the finest coffins, caskets, and funeral pieces that it would be possible to assemble.

It may be this lack of enterprise in Strasburg is due, as some would claim, to the fact that the city was for so long a time a subject of contention between France and Germany, and it may be but a coincidence, but it is worthy to note that Strasburg though located at the head waters of the Rhine is the only city in the whole Empire that has not improved and extended its waterfronts and

taken advantage of the facilities for commerce which nature has placed at its door.

A similar lesson, though from a different angle, is to be learned from England. Here, about 1840, with the advent of railway building, in many cases canal companies, with the consent of Parliament, constructed and began operating railways in the place of canals. Later, other railways, with the consent of Parliament, gained control of a great many of the canals, and with a few exceptions are still operating such canals. The testimony of the British Royal Commission, whose investigations consumed nearly seven years, is in effect, that this acquisition was actually for the purpose of strangling the canals, and that for several years where there was not actually strangulation, a policy of neglect was followed. It is noteworthy, however, that recent years have seen a change in very many cases and that now in many instances, which may be cited, even the railway-owned canals are undergoing extensive improvement. One such instance is that of the Birmingham Canal, owned by the London & Southwestern Railway Company. Since the canal was acquired by the railway the annual expenditures for maintenance and repair have become double what they previously were under the old management. The Trent and Mersey Canal is owned by the railway company which parallels it, and that the advantages of water traffic are appreciated even by skilled railway management is shown by the fact that this railway company has evinced great energy in promoting traffic on these canals. Other instances exist of canals operated by railway companies as feeders of the railway lines. But it is worthy of note and a fact which ought to be kept clearly in mind in any consideration as to the future of waterways in this country, that all such canals and waterways are actually operated at an annual profit to their owners.

The Manchester Canal, being a ship canal, is generally dismissed from consideration when internal waterways are under discussion. It is believed, however, that though this canal was primarily intended for ocean-going ships, no more practical lesson has ever been taught than is contained in the history of and the results already attained on this canal. The Manchester Canal was both a protest and a prayer—a protest against improper application of the duties levied by the Liverpool Harbor authorities—and a prayer for self-preservation.

The manufacturers in Manchester and the surrounding interior discovered that money which should have been expended in the improvement and maintenance of the River Mersey and its harbor, was spent for other requirements of the City of Liverpool. An instance of this was that in a single year the Liverpool duties which were principally levied on goods imported and exported either destined to or originating in Manchester and vicinity amounted to 115,000 pounds sterling, and that but a tithe of this, 4,770 pounds sterling, was spent for the purpose for which it was raised, that is, river and port improvement. Out of this sum, vast amounts were spent for other purposes: 3,400 pounds sterling went to the support of churches; 54,000 pounds went to the support of the police; 5,000 pounds to city lighting and a grant of 2,000 pounds, nearly half of what was spent for river and harbor improvement, went to the Lord Mayor.

The lesson which the Manchester Ship Canal teaches is not only in what has been accomplished, but as well the manner and method whereby so much has been accomplished. No community has ever had a graver problem to consider than that which was confronting Manchester in 1882. The burden of not only supporting the City Government of Liverpool and her schools and contributing to her churches had begun to tell long before this in a material way. There seemed to be no way of relieving itself of this unjust tribute. While other cities had gained in population, Manchester and the territory about it had actually lost in population. Real estate, as other values, were rapidly shrinking. It is of record that the year before work was begun on the Manchester Canal, there were upwards of 20,000 vacant houses, 2,000 vacant stores and 400 vacant shops and factories. Real estate values had shrunk, or rather, there was no market for real estate at any price. Bank clearances instead of increasing had dwindled to little more than 50 per cent. of what they once were.

Not only were the engineering and physical difficulties encountered in the construction of the Manchester Canal very great, but other obstacles such as the active opposition of Liverpool and of Parliament were very great. It took

upwards of ten years to induce Parliament to consent that Manchester should spend its own money for this enterprise, and it is claimed that the opposition to the project, namely, Liverpool, expended upwards of half a million pounds sterling in its effort to defeat the undertaking.

The main lesson is to be found in results, not results to the stockholders, of whom there are said to be nearly 40,000, for as yet no dividends have been paid nor are dividends even remotely hoped for—but results in the way of staying municipal and commercial decay and substituting therefor live tissue. The canal has now been in operation barely eighteen years. One incident will show an element of prosperity which is general. Just outside of the old City of Manchester before the canal work was undertaken, there existed a tract of land 1,100 acres in extent, owned by Lord Trafford and which had been in the family for centuries, used only as a shooting preserve. The line of the canal passed through this preserve, and it was only after the payment of an exorbitant price for the land and in addition an agreement to construct a stone wall sixteen feet high paralleling the canal so that people on passing ships could not defile the shooting preserve by gazing into it, that right of way was acquired. This wall was actually constructed at a cost of hundreds of thousands of pounds, but it is no longer of utility. Following the completion of the canal, the death of Lord Trafford resulted in placing the property on the market by his son. The sale price is said to have been a quarter of a million pounds and within a year thereafter a second sale was made which it is said brought the handsome sum of a million pounds sterling. At any rate, the whole tract of land passed to a company, subsidiary to the canal company, and what for centuries had been but a shooting preserve prior to the completion of the Manchester Canal, is now the center of industrial and manufacturing interests second to none anywhere on earth. Harbors, docks and quays have been constructed within the estate leading from the canal; many miles of railway tracks have been laid and on the day when I had the opportunity and pleasure of going over this canal, the shops, mills and factories located within Trafford Park were actually employing more than 65,000 hands. Other parts of the city both close to the canal and distant from it have had a generous, if not as remarkable a growth. No longer are there to be found vacant houses, mills, factories or stores. Bank clearances have considerably more than doubled.

Manchester is no longer compelled to pay tribute to Liverpool. The rates from New York to Manchester, as from any other port in the world to Manchester, are the same as from New York or any other port to Liverpool—in other words, Manchester is a seaport town. On June 12th, the day when these observations were made, there were by actual count thirty-six steamships at dock in Manchester from almost as many ports of the world. The names of these ships with their tonnage and hailing port furnish an object lesson which no city or State having either natural advantages or having furnished artificial advantages can afford to pass by or ignore. It seems to me that the situation is one in which the colored preacher's sermon on the efficacy of prayer has application: "Brethren," said he, "Pray with your eyes open. It's only de coward fearin' the wrath of God that prays with his eyes shet, and anodder thing, prayer widout work is like faith widout work. When I shet mah eyes and pray the Lawd for to send me a chicken I alwa's notes I have to eat codfish, but when ah looks the Lawd full in the face and pray, 'O Lawd, send this poor humble nigger for a chicken,' I alwa's notices I gets de chicken."

It would seem as if the lesson which has been taught by both England and the Continent, is, that the canal interests of the State in order to insure the future of the waterways, must begin to pray with their eyes open. In other words, that unless they are to eat "codfish," they will have to go after the "chicken."

By this is meant that they must organize for traffic and see that canal shipments are placed on a substantial, organized basis. The completion of the waterways will not be sufficient. Had the builders of the Northern Pacific and the Canadian Pacific railways been content to sit down and wait for business after the roadbeds had been completed, you would to-day find both of these great systems in the hands of receivers. They were not thus content. They went after the business and they went after it hard and with intelligence.

What has been accomplished in Manchester, has been accomplished only after most intelligent and painstaking organization — organization which did not cease with the completion of the canal. They took pains along intelligent lines to bring the advantage of water shipments to the attention of the shipping world.

As indicative of its broad management and extensive operation it may be cited that the Canal Company at Manchester has forty-seven locomotives, 1,400 wagons and 140 miles of railway track connecting the docks at different points on the canal with the different railway companies' lines.

The direct saving to Manchester by the canal is estimated at 1,000,000 pounds sterling per annum, and a specific benefit is the reduction in all kinds of freight to and from every port in the world, the reduction being from 10 to 60 per cent.

All this too has been accomplished without detriment to Liverpool so far as the maintenance and growth of its commerce is concerned, though the rates to and from Manchester are practically the same as to and from Liverpool and London. Manchester's population has increased from 700,000 in 1891 to upwards of 1,100,000 in 1912.

In summarizing the labors performed and the results accomplished by the canal management, the general manager, Mr. Herbert L. Gibson, made this statement to me:

"The struggle of carrying the bill authorizing the construction of the canal through Parliament was strenuous and exhausting. The engineering feats were executed in a manner to excite the admiration of visitors from all parts of the world, but great as have been the efforts put forth in these directions they were nothing to the tremendous task of diverting traffic from beaten tracks to this new route. This has been done only through organization and the employment of trained experts. In spite of all that has been accomplished we feel that as yet we have only touched the fringe of commerce which ultimately will come to Manchester."

An element that has greatly contributed to the upbuilding of cities like Manchester, Hamburg and Antwerp, which as a result, either of river canalization or ship canal construction, have been made seaports, is that their port regulations are such that a ship entering one of these harbors is guaranteed immediate dockage, at known rates, so that demurrage or unfair or unexpected wharfage dues are entirely unknown. It is such regulations, together with an active and organized routing and rating agency, that has brought to Manchester thousands of ships that formerly went to London, Liverpool and other seaport cities in England, and to Hamburg, Bremen, Antwerp, Rouen and other Continental cities, ships that never before went inland; and to Frankfort, Duesenberg, Mannheim and to other inland harbors, barges of from 600 to 2,500 tons capacity that formerly did not ply the waters at all.

It is impossible to study the history of water navigation in this State without being convinced that the general weakness has been in the lack of organization at the traffic end. There is no reason why the friends of waterways should fear the railways. On the other side of the Atlantic where population is most congested and where labor is cheapest, the more intelligent railway men have come to recognize the need and value of water transportation, and this recognition will come here just as soon as a system has been introduced and responsible rate-making machinery has been set in operation.

If the same energy and intelligence which marked the organized effort, responsible for the improvement and enlargement of the canal system of this State, now going on, shall be devoted to a comprehensive and practical utilization of the canals when they shall have been completed, no one need be apprehensive of the future.

It is to this and to kindred questions that the Commission on Barge Canal Operation is endeavoring to give its careful attention with a view of rendering the canals of full utility and in its efforts the Commission hopes to have the intelligent aid of your Association and its individual membership. (Applause.)

MR. CULLINAN: If I am in order, I would like to ask Mr. Mead a question before he leaves the hall; if during your examination at the different ter-

minals in any of the countries you visited did you find among the appliances and the structures, the elevators owned by the State or the municipality in connection with the trans-shipment of cargoes by water?

MR. MEAD: They were owned by private parties. I found this condition almost uniform, that while the canal,—of course the canals in Holland are owned,—that is, not all the countries on the Continent,—they are owned there largely by the Government; but even there I found that the harbor, the terminal regulations, like docks and warehouses and elevators and all that, were under municipal control. As a result of an understanding between the State, the Government and the locality, for instance in Hamburg, I have already referred to the fact that Hamburg is a free State; it pays no tribute at all to Prussia; she is as independent from Prussia as any other one of the separate States; the Prussian Government has given the State of Hamburg full control of the Elbe River from six miles above Hamburg to its mouth; the State of Hamburg has to maintain the river in a navigable condition, and in return the State of Hamburg has to maintain all docks, elevators, warehouses and things of that kind. One of the things that is noticeable is that there is actually a co-operation between the railroad company and the river or canal company. Although they are under different management there is always that co-operation and a co-operation that is compelled by law. One of the things that seemed to me to be essential, that while this country has not been farsighted enough to retain full control of the waterfront as they have done on the Continent, that as a rule regulations, * * * They are made by legislation looking to compel the corporation so that railway companies should extend its tracks and shipping facilities at its railway terminal.

MR. CULLINAN: Mr. Chairman, I merely asked the question for information because in connection with the location and construction of the appliances and other structures on the canal terminals of this State there has been a question raised whether or not the State was under any obligation to construct an elevator which might be used by the owners and those navigating the canals the same as they would use a storehouse. In other words, whether the State would construct an elevator upon any of the terminals in question. I want to get information as to the result of your investigations abroad on that subject.

MR. MEAD: Is my answer satisfactory?

MR. CULLINAN: Certainly.

IMPORTANCE OF HARLEM RIVER.

PRESIDENT HILL: The next speaker on the program will discuss the question, "Importance of Harlem River as a Link in Interstate Commerce," by Judge Charles F. MacLean, of New York City.

JUDGE MACLEAN said: Mr. Chairman and Gentlemen:

Before the lucid explanation of the scope of this Association, given by the Chairman, those of us who have attended for the first time were unaware of the beneficent scope of this Association and of the importance of the undertaking. I am to speak to you on the Harlem River as a link in Interstate Commerce. The Harlem River and Spuyten Duyvil Creek together form one channel of the stream separating Manhattan Island from the main land. That geographical designation indicates the short cut. The strait is about eight miles in length starting from the Hudson about 13½ miles from the Battery and running into the East River at about eight miles and a half from the Battery. No estuary on the Continent has been more used, more spoken about, more written about than that strait. It afforded the Dutch settlers communication with their settlements on the river up to the patroon's domain at Albany. After them the English colonists found it a great advantage during the War of the Revolution. According to tradition, its obvious strategic advantage impressed the British, although they were illy informed as to the impediments to naviga-

tion, some of which have not yet been removed. The War Department has taken up the matter of the improvement of the Harlem River from time to time. Some may recall how during the Civil War the War Department was criticized for having left it in such a condition and in the time of the Spanish War they were in fear of Cervera's fleet and were about to vacate their homes on Long Island Sound and on the Jersey shore and now criticism arises of the possibility of not being able to use the waterway for attack and defense.

The first serious advocacy of its improvement came in about 1868, when a commissioner of parks in New York, returning from abroad, advocated its betterment on the ground that it could be improved as a channel and as ornamental as the Seine flowing into Paris. Six years later the War Department, on the recommendation of the engineer in charge, General Newton, adopted a plan called the project of 1874, for which Congress appropriated \$11,000, and afterwards \$10,000. The State of New York at its next session recognized this project in a Concurrent Resolution of the Legislature, recommending it in the interest of commerce on all the Great Lakes, the State of New York and the New England Seaboard. In the following year, at the instance of the Federal Government, this State ceded the concurrent jurisdiction of the river and empowered the United States to condemn land for that waterway. A new project, or an old project revamped, was formed in 1878, and Congress then appropriated \$300,000 for the improvement and again at the instance of the War Department the State of New York passed the Acts of 1879 and 1880 providing that the City of New York may, as it subsequently did, cede the land for the waterway without compensation and also that all the bridges built across the river thereafter should be according to plans submitted to the War Department and at right angles to the stream and at a given height. Thereafter the Federal Government has made appropriations from time to time intermittently and continued the work and up to early last month had contributed, including the \$25,000 bountifully appropriated for this improvement, had contributed \$1,813,000. In 1890 the United States passed an Act requiring the Secretary of War to constrain the owners of all the bridges across the Harlem as soon as legislation could be provided for raising the grade to raise the bridges to twenty-four feet in height above the high water or spring tide. Obedience to that Act, with which the City and State of New York complied, has imposed upon the City of New York an expenditure in money and bonds of nearly \$30,000,000 or sixteen times all that the Government has spent up to the present time upon this national enterprise. Concededly a national enterprise, for the benefit of a great portion of the most populous and most prosperous portion of the whole country.

Moreover the riparian owners have been subjected, for the benefit of this improvement, to local assessments in large measure, in the taking of some lands and for more than a million dollars, \$258,812 for some betterment and \$750,000 to enable the New York Central Railroad to cross the river at the height required by the Secretary of War. It would seem that in view of this development being made and the national enterprise of the National Government in contributing \$1,800,000 and of the reciprocal action of the Government of the State of New York, that the Federal Government be reminded not only to continue but to complete this improvement. An august personage, when the President of the United States at New London recently expressed himself in that view, deprecated the conduct of the Government of the country in repeatedly breaking its promises in such behalf. Of course we know that breaches of promises will give rise, will create causes of action. That form of action is, however, monopolized largely by the feminine persuasion. No such recourse comes to us, and if we are to have this, if we are to ask Congress to go on with the improvement, it is necessary for us to show that it will advantage either the whole country or a large part of the country. When the Barge Canal is completed we expect that goods, merchandise and materials will be transported without breaking bulk from Chicago to Calais, the uttermost port in Maine, with sixty-eight intermediate ports on the Great Lakes, the villages and cities and hamlets innumerable throughout the State of New York, the places on the Hudson River, and the whole New England seaboard. That commerce is vast now. The statistics showing the great number of vessels employed upon the Great Lakes and the great tonnage from the first of this year to the end of

June will be given to the Secretary for the examination of any one who cares to know, but they will surprise the persons who are not familiar with the extent to which that commerce is now developed. It goes almost without saying that with the opening of the Barge Canal that commerce will greatly increase. It would seem, with this in view and with the great liberality of the State of New York towards this national enterprise and the great generosity of the City of New York, that this project of the Government would be pushed to a conclusion. In spite of the generosity of this State, perhaps in view of it, there seems to be on the part of the Government authorities a disposition to regard the improvement as a local matter. Well aware as are the members of the Engineering Corps that the opening of the Barge Canal will make the Harlem River improvement a greater necessity than ever, the project has been practically stopped. The appropriation made this year on the recommendation of the engineers was for only \$25,000, hardly enough to give the improvement as the sailormen say seaway, and the general-in-chief, in charge of the department, in transmitting the report of the distinguished engineer in charge, Colonel Black, has advised that while this is in fact a necessity that nothing further be done by the Government until the right of way of land, that the right of way across what is now across the curve near Spuyten Duyvil be furnished by this State, local or other authority. The present condition of the improvement is that after eight and thirty years, 40 per cent. of it remains untouched. There is now a channel fifteen feet deep from the East River to the Hudson River, chiefly mostly midway of the channel only, excepting that at High Bridge and at Dykeman Meadow it is reduced to less than twelve, limiting the usability of the river. Paraphrasing an expression of one of this morning's speakers, the profession of engineers cannot make improvements. At the time that the project of 1874 was formulated it was deemed sufficient to have a depth of fifteen feet in this channel. It was also provided that no tunnel should be built of which the depth was not twenty feet below mean low water. At that time coasting vessels of New England rarely drew more than fifteen feet. The only channel of which General Newton could have much information was the little beach tunnel in George street, which ran a shuttle train 200 or 300 feet and back. It seems in view of the great traffic which not only now needs this strait but that still greater and harder to be estimated traffic, this Association may well take up the question whether the project itself should not at least be speedily completed. Had the project been diligently taken up at the time it was formed, we would have had the benefit all these years of a channel which not only shortens the distance but for the craft built and constructed and designed for use in inland waters would have obviated the necessity of rounding the Battery with its shoal, with the congestion, with the danger of meeting large steamers, in which cases a tow is almost unmanageable, in making the tortuous passage near the East River and facing the terrors of Hell Gate for eight and thirty years. If the project itself be completed as intended, four deficiencies will still obtain; first, the insufficient depth for modern transportation. Fifteen feet may be sufficient for a very slowly moving vessel which draws twelve feet of water, but with increasing speed it is insufficient. A few years ago when Ambrose Channel was opened after its improvement at great expense, surprise was expressed that an outgoing liner had trouble in the channel. It was found, however, that it drew at its speed four feet more than it drew at the dock. That is an illustration of the necessity of providing for a sufficient depth of water, not only to lessen the skin friction but also because at speed a vessel, to use a sailor phrase, squats, and the fair way, if ever completed, will not have a sufficient depth for coast steamers.

Secondly, the curve near Spuyten Duyvil with a radius of 450 feet, left purposely by the engineers, as is now found will so limit the possibilities of using the canal that such barges as will come down the new canal it will be impossible to take around the curve against the tide which runs five to three feet per second. The engineers at the time thought it was the thing to leave a water curve, this curve, so as to control the tide. The tide still ebbs and flows as then, but it has been found that this curve instead of helping to control the tide is a great obstruction to navigation and is not helpful at all.

If it be deemed expedient, as it probably will be by the practical men of this Association, that this State which has spent so much upon its magnificent

canal system, which on the maturity of the bonds authorized last year will amount to, if reckoned after the manner of accumulations in the savings banks, the sum of a thousand millions, if it be considered expedient to furnish the United States after all the generosity of this State furthermore the land at Spuyten Duyvil, the only issues in condemnation proceedings would be the ownership of the land and the value of the fee. The ownership of property which has been in one family for nearly 100 years can take but brief time in Court. To avoid the long delay of condemnation proceedings, what would take at the most in a jury trial in Court an afternoon or at the maximum a day, it would seem advisable that the bill be passed by the Legislature for that condemnation provide that that issue be tried by a jury, as bringing more satisfaction to the State and more satisfaction to the owner of the property, who would have as they would not have otherwise more voice in the selection of the arbiters of their compensation, who would have upon the trial six challenges and see that they had nobody prejudiced against them and avoid all question of political patronage and worse, which have brought members of the Bar of our City into disrepute and even into disbarment. If all this be accomplished, the office and opportunity of this beneficent Association will not have been ended. It, as it seems to me, should go on with the watchfulness and guidance of an enterprising intelligent body to see to it not only that the land which we possess for inland waterways and improvements but also that the officials which we put in charge shall do their full duty and it is to be hoped that it will continue for years in the exercise of its function and that it will from time to time as it meets together enjoy the hospitality and the welcome which we here enjoy in this beautiful town. (Applause.)

WATER TRANSPORTATION FOR NORTHERN NEW YORK.

PRESIDENT HILL: Those of you who had the privilege of hearing the next speaker at the Albany meeting of this Association two years ago remember he gave us very valuable information in regard to water transportation in Northern New York and I assume that the speaker will have many additional reasons to assign to us this afternoon. It is a great pleasure to me personally, and I know it will be to the delegates, to see a live Assemblyman from the City of Watertown, and I take pleasure in presenting the Hon. John G. Jones. (Applause.)

MR. JONES: Mr. President and Gentlemen of the Convention: I want to correct first before entering upon my paper an error which has appeared in your program. I notice that the printer has not only twisted my name but he has twisted my place of residence. I have not any objection to what I am called, but I do care where I am called from. I do not mean by this to cast any aspersion on the City of Watertown as a place of residence but to my own satisfaction at least, I have figured out conclusively that within a very few short years, due to its rapid growth and development, the City of Carthage will so far overshadow the City of Watertown that we will consider it up there a mere suburb of our place of residence. I will therefore ask the Secretary to record me as being from Carthage.

The people of Northern New York are indeed fortunate in having the annual meeting of your Association held in one of the most important of the cities of this north country. Your coming is of the greatest importance from the fact that we of the North are deeply interested in those things for which your Association stands, namely, the improvement and extension of the inland waterways of our State. Your coming at this particular time is for us doubly fortunate in that we need your influence to assist us in securing better transportation facilities, which we feel can only be obtained through the improvement and extension of our Black River Canal.

That our need along this line is vital will be the subject matter of this paper and, if what I have written appeals to you to the extent that your Association will lend its powerful influence in assisting us in our campaign for better means of transportation, which means so much to the people of this north country and, through its greater development, so much to the State as a whole,

then, indeed, will our people have basis for hope that the time is not far distant when the Black River Canal will be extended from Carthage to Lake Ontario and become a part of the Barge Canal system.

You who are well acquainted with the canal history of our State know that the proposed extension of this canal is no new scheme, as it is a well known fact that as early as 1825 the people of this vicinity were alive to the great benefits to be derived from the building of a canal from Rome to Lake Ontario. They fully realized that proper development of this country was dependent upon a waterway connection with the Erie at Rome and to the Lake, which would serve as an outlet for their then rapidly increasing manufactured and agricultural products. The demands of the people were so insistent during that period that the Legislature ordered surveys made, not only from Rome to Carthage, but from Carthage to Lake Ontario. While the State never authorized the building of the Carthage to the Lake section it did authorize the building of the canal from Rome to Carthage and to this fact the development of the Black River valley is quite largely due.

It is an interesting fact that at the time when the people were demanding of the State that this canal be built in order that they might enjoy a measure of the great benefits, which had come to the people along the route of the Erie, through the increased transportation facilities afforded by reason of the building of that great waterway, a petition to the Legislature setting forth the urgent need for the building by the State of the Black River Canal stated that an estimate of tonnage available for canal shipment obtained from thirty-four towns along the proposed route showed that at least 50,000 tons yearly could be depended upon. At that time this tonnage was considered enormous, yet to-day from less than one-half of the number of towns named in that early petition the in-bound and out-bound tonnage which would be easily available for canal purposes, would amount to over 1,500,000 tons. It is not my intention to take up your valuable time by going into details as to the nature of the products which go to make up this great tonnage more than to say that it comes from the many manufacturing plants situated in the towns along the Black River and the rich agricultural districts tributary to the Black River Canal and the proposed extension. Further, at your annual meeting in Buffalo in 1911, Hon. George H. Cobb read a paper on Water Transportation, which gave a very excellent account of the enormous money value of the products of this section of our north country and the natural resources which could be developed to increase the tonnage output, provided that adequate transportation facilities were to be had. That valuable paper is among your records and is available to those of you who were not present at that meeting. It will be my purpose to deal in a general way with the circumstances which have led up to the present unfortunate condition as to transportation facilities which confronts us to-day, the crying need for betterment of those conditions to the end that our great resources may be properly developed. To those of you who are familiar with canal construction the fact the canals as built in early days in time outlived their usefulness, is not at all strange.

They were built at a time when such works were considered stupendous undertakings as in fact they were. The canal advocates undoubtedly considered that they were very fortunate in securing the approval of the Legislature to the canal scheme and probably the most enthusiastic never dreamed that the canals as then designed would be taxed to their carrying limit within any reasonable time. The history of the Erie Canal shows how mistaken they were from the fact that within a very short time after its completion the rapidly increasing output of products from the central part of the State necessitated the enlargement of the Erie to give greater carrying capacity.

The unprecedented growth and development of this section of the State may be attributed almost wholly to this great inland waterway as first built and afterwards enlarged to meet the increased demands made upon it. When it is considered that the Black River Canal is of about the same size as the Erie as originally built, having a canal prism of only 42 x 28 x 4 feet for boats carrying about 75 tons, it is not to be wondered at that it could not be operated profitably in competition with the railroad which later was built along practically the same route. The strong competition of railroads caused the decline in canal

traffic in this as well as other lateral canals to the end that many of them were abandoned by the State. Fortunately the Black River Canal was one of the lateral canals, which, under the Constitution of the State, could not be abandoned without a vote of the people and thus this feeder was saved to the people of this section and in time will again take its part in the further development of this section of our north country. Returning again to one of the causes of the decline in traffic over the Black River Canal, the competition of the Utica & Black River Railroad. When the State of New York by legislative enactment exempted the railroad corporations from payment of tolls for the carrying of freight which could be carried by its own canals, it deliberately put in the hands of the avowed enemies of canals the very means they were looking for to destroy competition. It has truly been said that there is no competition more feared by railroad corporations than water transportation, whether by the State through its inland waterways or by corporations operating steamship lines for the handling of coastwise trade.

Railroad owners early realized that where water routes existed always there would be low freight rates and it became their settled purpose to drive out such competition as speedily as possible. They made a practice of making extremely low rates during the period of the year when canals could be operated and thus made boating so unprofitable that gradually the use of the canal for carrying freight grew less and less until, in some instances, the practice was almost wholly given up and finally the canals abandoned. To a certain extent this condition existed during the early history of our Black River Canal and in time became so bad that for some years past that part of the canal north from Boonville to Carthage has not been utilized to any great extent for transportation purposes, and to-day this great north country with its enormous output of manufactured and agricultural products is at the mercy of one railroad company, the New York Central, with no hope of a competing line for years to come. It is a well known fact and fully realized by the shippers of freight over the New York Central lines that the present transportation facilities afforded by that company are wholly inadequate to take care of the present tonnage output to say nothing of the natural increase. It is very patent to anyone that if this part of the State is to develop and grow as its great natural resources warrant some other means of transportation must be made available and that in the very near future.

That the New York Central officials are fully cognizant of the fact of their inability to properly take care of the ever increasing tonnage of this section is plainly shown by letters written by them to nearly every shipper of freight stating in plain terms that they, the shippers, must be prepared for a great shortage of cars during the next few months. Another letter to the manufacturers and dealers has been written urging them to lay in a surplus of coal now in order to be prepared for the winter months and thus avoid a shortage of fuel during that period, when, judging from the past winter, the motive power equipment of the railroads will be totally inadequate to take care of their needs in the regular way. This is the condition which confronts us to-day and will continue to confront us unless other means of transportation are made available.

The State of New York is annually expending vast sums of money for the betterment of highways; it contemplates the expenditure of large sums for the conservation of natural resources, water storage, re-forestation of waste lands, all very worthy projects and which are approved by the people of the State at large, but the question properly arises, to what use is it for the State to expend such vast sums of money for the further development of any section of the country unless it at the same time provides means of transportation to properly take care of the increased output of those products, which would naturally follow such development. The State saw the great need of taking care of the increased growth of the central part and canal improvements were made from time to time, culminating in the building of that greatest inland waterway of its kind in the world, the Barge Canal. It was a very worthy project and has the approval of all the people of all localities.

We of this north country feel that we have a right to ask of the State that those same benefits, which have in the past and will infinitely more in the future, accrue to the people along the route of the Barge Canal by reason of the build-

ing of that great waterway, be accorded to us to the end that our country may grow through the development of those vast natural resources with which it was so richly endowed by nature. We feel that the benefits resulting from such development would be of immeasurable value, not only to us of the north, but to the people of the State as a whole and that in asking that we be granted an appropriation for the building of a canal from Carthage to Lake Ontario of Barge Canal size and type, we are only asking that which rightfully belongs to us.

That we are not unmindful of the needs of others and to the end that the Barge Canal system may be made to serve the greatest number of people we of the north have joined hands with the people of the south in asking of the State that it not only give its approval of the Carthage to the Lake Canal, but to extend its Barge Canal system from the terminus of the Cayuga-Seneca Canal to the Pennsylvania line, by the reconstruction of the old Chemung and Junction Canals, thus giving to the people a direct waterway route to the rich coal fields of Pennsylvania.

That this request was granted by both branches of the last Legislature is now a matter of history. Unfortunately and because of the greater demand for the completion of the good roads system, the Governor felt obliged to veto the Canal Referendum bill and gave his approval to the Highway bill. While we regret the delay, nevertheless we are not discouraged; in fact, perhaps it is better so for the reason that we have learned since that there is still another section of our State, which would be greatly benefited by an extension of the canal system. That section is Greater New York and vicinity.

Your Association is fully conversant with the nature of the proposed Jamaica Bay project and of the great importance of a canal from Flushing to that point if the utilization of Jamaica Bay for dockage purposes is to be assured. Again we extend the hand of good fellowship and ask the people of Greater New York and vicinity to join with us in our petition to the Legislature next year asking that a broad policy of canal extension be approved to the end that not only may the Barge Canal system extend across our State from east to west, but that it extend from the north to the south and from Flushing to Jamaica Bay. When this is accomplished and with the united efforts of all believers in the great good to come to all through the extension of our canal system, it can be accomplished, then will result the proper development of the resources of every part of the Empire State, which can only be brought about by such a completed system of the people's waterways as I have described. It would mean an era of the greatest prosperity to all the people of our great State.

With our great main highways nearly completed, with the building of a county system of good roads in connection with such waterways as we are about to ask for, the shippers need never feel that they are at the mercy of any one railroad or any number of railroad corporations or ever will be.

This is the age of big undertakings. Already there are advocates of a great main highway from Florida to the Canadian line and even from the Atlantic coast to the Pacific. Is it beyond the realm of possibility that the time may come when a great waterway may extend from the St. Lawrence on the north to the Chesapeake Bay on the south?

Mr. President and Gentlemen of the Convention, we of the north feel deeply the importance of inland waterway extension. We feel that unless this means of transportation is accorded to us there is but little hope for the future development of our part of the State. With this means of transportation afforded us and the added benefit of water storage, not only would there be a large increase in output of manufactured and agricultural products but also, and, which would be of the greatest possible benefit in the future, the vast quantities of minerals with which our country abounds would become available. Tributary to our proposed canal are millions of tons of high grade magnetic iron ore suitable for the manufacture of steel; iron pyrites in unlimited amount, which would yield hundreds of thousands of tons of sulphur for the manufacture of sulphuric acid and sulphite pulp; abundance of material for making the best portland cement in the world; mountains of the purest limestone for lime and flux, zinc, lead, hematite ore, marble, sandstone and granite, sources of great wealth for the future but all practically unavailable at present through lack of proper

transportation facilities. We have these great natural resources here in the north, resources which not only mean our future prosperity, but the prosperity of all the people of the State as well, once they are properly developed, and that development can only be brought about by giving us access to the markets for such products through the cheap rates afforded by water transportation. It should not be the policy of the State to allow the prosperity of any one locality to become imperiled, but rather it should adopt the broad policy of assisting by every legitimate means in the upbuilding of every locality for the common good of all.

Conserving where conservation seems necessary for future good, but utilizing where utilization will be of the greatest possible benefit to the present generation without detriment to future generations. With such a policy will come the greatest era of development of natural resources the State has ever known and through that development commercial prosperity which will make the State of New York the Empire State of the nation for all time to come. (Applause.)

PRESIDENT HILL: Surely Carthage is not without a prophet and we will atone for the error of the printer. We now see what there is in Northern New York, backing the project of water improvement in this region. The time was when it was not so. We welcome and accept these suggestions from Brother Jones in the most cordial manner.

Senator Cobb has an announcement he desires to make.

SENATOR COBB: I rise to say to those of you who are unfortunate enough not to bring your wives with you, I desire to have you telephone your respective wives you will be home Sunday morning in time to go to church and that is the best you can do. Through the generosity of the citizens of Carthage, Watertown and the village of Sacketts Harbor and some other prominent citizens and through the auspices of the Chamber of Commerce we have made an arrangement to give to the delegates who live outside of the County of Jefferson, who have favored us by coming here, a trip down to the Thousand Islands. If you have never visited the Thousand Islands, it will be the treat of your life, because it is said by travelers that it rivals the scenic beauty and even excels Switzerland. In order to take in this trip it will be necessary for us to devote Saturday to that excursion. We can leave here and make the trip through the Islands, have luncheon at some point, probably Alexandria Bay, and get back here in time so that you can take the night train for your homes. We want you to go and we do not propose to accept any excuses for your not going because, as I say, it is a rare opportunity and you are in this vicinity and we are delighted to extend to you the hospitality. It will be necessary that we know how many are going. There are steamboats there ranging from put-puts to those rivaling the Hudson River line. Of course the number that go will determine the size of the boat which we will charter. In order that we may know, I will respectfully ask all of the delegates to signify their intention of accepting the invitation some time during the day to our Secretary Francis Lamont; and if you cannot find him, he is in the back part of the hall; leave your name and the place where you are located, the hotel, with either Mr. Lamont or the acting Secretary, Mr. Ellsworth, to-day. I trust you will every one of you make arrangements to accept the invitation.

MR. KILLMER: I move you that this organization accept the invitation. Let us do that formally and let us individually give in our names. I move we accept the invitation.

MR. TUTTLE: I second the motion and also we express our appreciation of this opportunity.

PRESIDENT HILL: Mr. Tuttle suggests we express our appreciation. It will be put in proper shape by the Secretary. I think the Watertown people will convince us, before we get away from here, that they are going to have enough water to drink and for commercial purposes also. It will be a great

treat and I am very glad we are going to have the opportunity of seeing the Thousand Islands. As many as are in favor of the motion will manifest it by saying aye, the contrary minded no. It is so ordered and the invitation is accepted with the thanks of the Association, Mr. Cobb.

We must get to the program. We will hurry along as fast as we can. We are going to crowd in one or two extra papers. I will ask the speakers to be as limited as they can in justice to the subject under consideration, so we will get through in time to enjoy the excursion which has been planned for us.

SENATOR COBB: It was very thoughtless in me not to include the ladies in that invitation. I said delegates, but we intend to have the visiting ladies. I will be very much disappointed if they do not come.

PRESIDENT HILL: Gentlemen, we have been thus far unable to hear from Judge Kernan, who advised he was to be here and was to accept the chairmanship of a Committee on Resolutions. In the event of his not appearing to-night, I am going to ask Judge Cullinan, the Chairman of the first sub-committee, to act as such if he will do so.

WATER STORAGE IN NEW YORK STATE.

The next paper on the program was to have been read by President Reeves of the Long Island Waterways Association. He is unable to be present. In place of that we are fortunate in having with us the Chairman of the Legislative Committee on Water Surveys and Water Storage, Senator T. Harvey Ferris of Utica, who has consented and who has come here at our request to speak on water storage in this State. I want to say that through an inadvertence in the matter of getting out our program that we were not able to announce the address of the Senator on the program, not knowing that he was going to be able to be present, but he always responds to waterways and water storage questions so admirably that he responded to a telegram sent him last night and he is here to-day to address you. We will be pleased to hear Senator Ferris.

MR. FERRIS: Mr. President and Gentlemen of the New York Waterways Association, it is perhaps only fair to say that the inadvertence was caused by my stenographer very properly assuming that everything centered in Watertown and she sent a letter to the Honorable Senator who presides over you addressed at Watertown. My apology for reading this paper to you instead of talking is the importance of the subject and with my well known rhetoric in this matter when I adopt free-hand speech.

It is very much like carrying coals to Newcastle to talk to this gathering on the subject of Water Storage in New York State. There are those present who had been engaged in advancing its cause for many years before I gave the subject any attention; there are those to whom the State is indebted in a very large degree for the conception of the policy and for carrying it forward consistently and persistently until to-day many of the essential features are conceded not only by all students of the question but by the thinking public who make up the body politic. Many projects are to-day conceded by everyone to be wise, proper and even necessary that twenty years ago were thought to be but futile dreams of ambitious promoters.

My apology for presenting the subject to you is that for the last two years I have been upon the "firing line," have been in active touch with proposed legislation, and with various sides of the question. I believe, therefore, that I am in a position to be able to state fairly and dispassionately the actual condition of the movement for water storage in the State of New York. Regarded as chimerical twenty years ago, to-day no newspaper and no well informed citizen denies the wisdom or economic feasibility of storage projects upon all our principal power streams, and many who have given the subject attention believe that the time will come when every stream in the State of New York will from spring to fall and fall to spring, carry an even regulated flow, avoid all flood damage, and do its full duty to the State at large and the community.

through which it flows, fulfilling its maximum usefulness, both for navigation, sanitation and power-producing purposes.

No man denies to-day that the thousands of cubic feet of water which make up the spring flood in the Black River is an economic waste that it is the duty of the State to prevent, and in view of the fixed limitations of our fuel supply, no thinking man will deny that every hydro-electric power should be developed to its maximum efficiency at the earliest moment consistent with commercial success. There are, however, many difficulties yet to overcome, and I am here to-day principally for the purpose of pointing out to this audience, upon whom more than upon any other body of the State rests the responsibility of either bringing about or preventing stream regulation, the exact condition of these differences and the situation as I see it. The great difficulty with the whole subject is that it is so complex, so many sided, that unless great care is used, reasoning is apt to be confused and logic clouded. I may be mistaken, but it seems to me that there are a few basic propositions, which we all believe in, and should work for. Briefly stated they are as follows:

First: Ultimate regulation upon all of the inland streams within the State.

Second: The maximum development under some form of State control, of all water-powers upon all of the inland streams at the earliest period consistent with commercial success.

Third: The State should never part in perpetuity with any rights which it now possesses.

Fourth: The State should derive some revenue from any development to which it contributes its aid.

Fifth: The State should adopt a policy which will ultimately perfect its ownership or control of all water-powers now owned by individuals.

So far as I have been able to learn no person actively interested in this subject has denied the correctness of any of the above propositions. During the summer of 1911 and the session of the Legislature of 1911-1912, many conferences were held with citizens of the State interested in all sides of this problem, and I am convinced that even the most ardent enemies of State control were satisfied that as to the water-powers upon inland waters, the above principles should be followed. But when we thought we had succeeded in arriving at a position where all persons interested could stand, we were somewhat disappointed to learn that there was within the State a certain faction, who, notwithstanding their acquiescence in these propositions, believed that the State should go further and should at once place itself in the position of owning, or being able to own, or developing, or being able to develop, all of the inland water-powers of the State, and to market the product upon its own initiative, and at its own expense as a governmental undertaking. It is conceded by all that in the case of the Hudson and Mohawk, the grants were under the Dutch Law and not under the English, and that the title to their beds is clearly in the State, but the advocates of this theory claim that as to other boatable and navigable waters, the ownership not only of the water but of the bed of the stream is in the State, and that any grant to any person or corporation, whether by patent or legislative enactment of the right to use the bed of the stream for the purpose of erecting a dam or creating power was of necessity temporary, or at least revocable by the sovereign power of the State; that the theory that the owner of land adjacent thereto has a riparian right in the bed of the stream which gives him the ownership thereof, subject only to the rights of the public for navigation purposes, notwithstanding it has been sustained by our highest court, is an erroneous one, and that as a matter of fact the ownership of all rights in the bed of all inland streams as well as the water, is in the State of New York. It is, I believe, conceded by the advocates of this theory that the ownership of the beds of non-boatable or non-navigable streams is in the riparian or adjacent owner, although their reason for this distinction had never been quite clear to me. It is exceedingly unfortunate for the success of stream regulation that these controversies should have arisen at this time, and especially so as the practical results to be obtained to the State by either theory are nearly identical. If stream regulation is brought about as was proposed by the bills introduced last year in the Legislature by State or private capital, after the

riparian owners had contracted fairly with the State to pay an annual charge and at the end of a given period to deed the structures, works and storm waters to the State, the State would ultimately become the owner of all the excess power created, exactly as it would under governmental ownership; the only difference being that the riparian owner who now has a mill upon the bank of a stream and owns his power, would continue to enjoy the same until such time as it might be necessary for the public welfare that all power units be taken from private owners. In their results there would be so little difference in these theories that there would be little or no difficulty in getting the advocates of the various plans together, except for the fact that there is a basic difference in principle; one faction proceeding upon the belief that the title to the waters and beds of all of the streams are in the State, and that the State should immediately enter upon the governmental ownership, operation, distribution and sale of all power at cost; and the other faction claiming that the ownership of the beds of all streams within the State, except the Hudson and Mohawk, is in the individual owning the land adjacent thereto; that all present developed power owned by individuals or corporations should be marketed, distributed and sold by them subject to more stringent State regulation; that any power owned by the State, should either be developed under lease or if developed by the State should be sold at market rates, thereby creating a revenue. These two theories are diametrically opposed; the one holding that this State is a Government, the other that it is a business partnership—the one proceeding upon the communistic doctrine of governmental ownership, operation and division of a great product for the purpose of furnishing its various services to the community without profit; the other upon the theory of individual ownership and sale of the same product under State or governmental regulation; the one upon the theory that rights heretofore granted by the sovereign should be upheld, the other that they are revocable at will.

Under the circumstances it can be readily seen that our stream regulation is doubtless at an end until one theory or the other prevails. By the very nature of things, even though the object to be attained is substantially the same, it will be impossible to work out a plan upon both theories. The man who is in favor of governmental ownership will never accede to governmental control, and the man who believes in vested rights and in the individual ownership of an unearned increment in the land will hardly acquiesce in the doctrine that grants of the right to use the bed of a stream should be revoked by the State as soon as they become valuable. It is a divergence of opinion brought about by the prevailing spirit of the times. It is the radical against the conservative—the socialist against existing conditions. There can be no question but that this State and this nation must face the problems of how far the Government shall own, distribute and furnish at cost to its citizens both public utilities and necessities of life, and as to how far grants heretofore made by it shall be considered binding, particularly where they have proven profitable. This is called by some the spirit of socialism, by others the spirit of progress, but by whatever name it is called it is conceded to be abroad by all thinking men, and it must be faced by just such bodies as this, and worked out for the good of all.

It is therefore meet and proper that this Association should at this time put its best thought to this problem, to the end that it may be solved in New York State along the lines of true governmental principles. For myself I have never felt in doubt as to the road I must take. The argument that the Courts of this State, in holding that the beds of streams other than the Hudson and Mohawk are owned by the riparian owner, have erred, does not appeal to me. They are not to pass on public policy but they can pass on private rights. It is admitted that the highest Courts of the State have so determined the law, but it is claimed that because of the fact that the waters are public and that the rights to use them and the right to fish therein have been held to be public rights, that the individual owning the adjacent property has no riparian rights in the bed of the stream, and even if he has an ownership in fee of the bed such right does not give him the ownership of any hydro-electric power which he may produce therefrom.

I cannot consent to this doctrine. It is true that the navigable or boatable streams of the State have in the past been deemed to be highways of commerce

and that a very close analogy exists between these streams and the ordinary roads or highways upon the land. The fee or ownership to the center in each instance is in the owner of the abutting property, subject always to the right of the public to pass and re-pass in the ordinary course of travel. The owner of the land abutting has the legal ownership to the center of the highway. He has no right to put any obstruction there that will interfere with the rights of the public in passing to and fro over it. The owner of the land abutting the stream has the legal ownership to the center of the stream. He has no right to put any structure there which will interfere with navigation but the legal title to both the land under the highway and the land under the streams is in the adjacent owner, and if there is any manner in which he can receive an income from that land without interfering with the public right of travel, he has the absolute right to use it for that purpose, and has had ever since the common law of England prevailed.

I believe in the individual ownership of property. Civilization has never made any progress without it, and every experience in community of ownership has resulted in a step backward rather than forward. I deny that communistic ownership is progressive and as I believe in the individual ownership of property I think that any man who came to this country and acquired rights in property is entitled to sell the same or bequeath them to his children and his children's children. But it is said that at the time that the patents to the lands adjacent to these streams were granted by the Government, the present system of hydro-electric development was unknown, the transmission of electric energy impossible, and that the discovery of these two factors, namely, development of hydro-electric energy and the transmission thereof, has given to these water-powers additional value which was unforeseen by the Government in granting the patents, and that consequently the present owner cannot take advantage of any additional value which these factors have created, but that the Government may to-day assert its original ownership. I cannot see the logic of this contention. When the original settlers came to this country, some selected the land abutting water, where there was a difference in altitude, and set up a mill; others selected land of great fertility, such as the Mohawk or the Genesee valleys; others selected lands adjacent to large harbors, such as upon the Island of Manhattan, and the State granted each a patent. Can it be said that the man who chose land of extraordinary fertility, which has become valuable since for truck gardening, by reason of its proximity to large centers of population, shall not receive the increase in value because the State did not foresee that those centers of population would be built in that neighborhood? Can it be said that the man who located his property upon the Island of Manhattan, say at the corner of Wall and Broadway, shall not receive the additional value of his land because it happened that the greatest city in the world was built upon it? If they are to receive the enormous increase in value caused by the changed conditions, and unforeseen by the then sovereign power, why should not the man who located his land upon the stream where there was a difference in altitude receive the increase in value brought about by the discovery of the transmission of electricity. The only answer I have heard to that proposition was that water was of its nature public; that everyone had the right to use it; that no man could dam water and keep it, and that like air everyone was free to use it. In this connection, it should be borne in mind that water alone does not create power. Two things are essential to create water-power: first, water to turn the wheel, and second, the difference in altitude over which the water falls.

There are many kinds of energy—the energy of falling water, the energy of the rushing winds, the energy of the sunshine, the energy stored in grain and many others. Three things are essential to the production of a bushel of wheat—the land upon which it can be grown, the air and water. I have never heard it asserted that because the air, the sunshine and the water were necessary to produce wheat, it was owned by all the people in common, or that the wheat did not belong to the man who owned the land. If we are to have the ownership of the energy derived from water, owned by the public, but falling over a difference in altitude on land owned by individuals, transferred to the State, because a portion of the energy comes from the water, why should not the wheat raised in the State belong to the State, because both air and water

owned by the public were necessary constituents in its production? Nor can it be claimed that this power should be acquired by the State upon the theory of public necessity, for power can be obtained from coal or oil in unlimited quantities for many years yet. Looked at from whatever angle you choose, the argument is but a subterfuge. Its effect is to say that individual ownership of property shall cease whenever the State for any reason believes that such property has become more valuable than it expected. No citizen of the State of New York should hold his property by such uncertain tenure. If there has been one virtue in the English law, it is that the individual ownership of property once secured from the sovereign was sacred, and that the man so acquiring it should hold and own it as his own, and should pass it on through succeeding generations, subject only to the rights of the sovereign power to take it in case of public necessity for a public use, and then only upon just compensation, having due regard for its then value, whether the same be unearned increment or otherwise.

Looking at the other phase of the question, I am forced to the same conclusion. It has never been the policy of this State to own or operate its public utilities. It is true that grave abuses occurred under the system of ownership by public service corporations without any supervising control. But recently the State has committed itself to the policy of State supervision of all public utilities. We have not worked under that law long enough to be sure of its effect, but it is certainly a great improvement over the former system. Undoubtedly it needs extension, and I assume that several years will pass before the citizens of the State will receive the full protection to which they are entitled under that law. Although it may take time I am thoroughly convinced that the people of this State are sufficiently intelligent, and that they have to-day, under the present Constitution, sufficient power to properly control all public service corporations and to bring about justice as between the consumer and the investor in these enterprises. It is apparent that if the Government attempted the development, the ownership, the marketing and the sale of all of the electrical power in the State, it would come into competition with present companies. This means duplication of all of existing distribution plants and many transmission lines. One of the smallest factors in the cost of hydro-electric energy distributed to incandescent lights for the purpose of lighting, is development or manufacture. By far the larger percentage of cost is in transmission and distribution. If the transmission and distribution systems are duplicated, vast economic waste must result and all economic waste is expensive. A paralleling system to bring about the same result will cost someone money. Duplication means competition, and competition a strife for business, almost inevitably resulting in the sale of the commodity for a time at less than cost, and this means loss for one party or the other. Which it will be depends entirely upon which factor can produce and distribute the commodity cheapest. In many places where it has been tried it has been found that private enterprises can actually produce, transmit and sell electric energy at a price cheaper than the public, and make a profit besides. The inevitable result in these localities is that the Government loses the business, with the result that its plant will have only a portion of its capacity in use, which means additional loss to it. Governmental ownership does away with individual initiative, makes place for political spoilsmen, breeds extravagance, encourages poor service and almost inevitably leads to unscientific accounting, with a resulting loss.

There may be and undoubtedly are instances where the only way the public can secure fair treatment from a public service corporation is to enter into competition with it, but these cases cannot exist where proper governmental regulation and control of such public service corporations are had by a competent governing body.

I have given you my ideas and have endeavored to fairly state the condition as it exists to-day. It was the difference in opinion between the advocates of the two policies which prevented water storage legislation last winter. That difference will prevent such legislation until one side or the other prevails. There can be no compromise where so radical a difference in principles exists and nothing can be done until this is settled.

In leaving I desire to impress upon you the importance of the question. It

is one of the preliminary questions which must be determined as a step in deciding the problem in the State or nation, as to whether or not the community of interest idea shall be adopted and governmental ownership and division extended to this class of public utilities, and whether or not private rights vested for over a hundred years, and upheld by every Court in this State, shall be ruthlessly set aside to appease the demand for so-called progress.

Many other considerations could be urged against this governmental ownership plan. It will undoubtedly cost this State thousands of millions of dollars. It will, if successful, drive all business from existing electrical power companies. It means the establishing of stores for the purchase and sale of electrical goods at cost. It means the building up of a tremendous political machine with the power to the political boss to give favors to favored municipalities, and to let advantageous power contracts to friendly manufacturers. It means this and more, but I do not wish to go into that at this time, because I do not wish to fog the larger issue. The State of New York must determine whether it will enter upon the policy of governmental ownership, sale, distribution and marketing of electrical energy at cost, and it must determine that question now. In that determination the decision of this body will be a very large factor, and in conclusion I ask you gentlemen not to be led astray by any talk of conservation of natural resources or any similar catch word or phrase, for the real question at issue in this State is: Shall we embark on the policy of the governmental ownership, operation and division without profit of all power, both steam and electric, or shall we follow our present policy of private ownership with more stringent governmental control and with revenue producing stream regulation? (Applause.)

PRESIDENT HILL: Senator Ferris, we are under great obligations to you for your matchless presentation of this subject.

Secretary Francis H. Lamon, Chamber of Commerce, Watertown, announced that a theater party had been arranged for the ladies, and that they were to meet at 8 P. M. at the Woodruff House.

WATERWAYS, WATER STORAGE AND A FAIR DEAL.

The next paper was by Howard D. Hadley, Plattsburg, on "Waterways, Water Powers and a Fair Deal." Mr. Hadley said:

The United States and the State of New York have spent millions and millions of dollars, very properly, in developing and making accessible the magnificent harbor at the mouth of the historic Hudson,—primarily for the benefit of the City of New York. In consequence of this and other advantages, all well developed, in large part by national and State aid, New York is now the second largest city in the world. In fact it is too large, not only for its own good but for the good of the nation and State; its population has grown much faster than its transportation and terminal facilities.

The State of New York has spent and is now spending hundreds of millions of dollars in improving its great canal system and while this great work cannot fail to be of incalculable benefit to the State as a whole, it will benefit primarily the cities and villages along the canals. The effect of legislation enacted in the State and nation, especially in the past twenty or thirty years, as well as the failure to enact certain much needed laws, has been to make still larger the big cities by draining and robbing the rural regions and the smaller cities.

Now, in order to do even-handed justice to large, important and heretofore neglected sections of the Empire State, water storage reservoirs should be constructed by the State near the headwaters of its great streams and this should be immediately followed by the development also by the State, of the enormous undeveloped water-power resources of its mountainous regions, **primarily for the benefit of the regions in which those water powers are located.**

This work would be an aid to navigation, would tend to prevent freshets, would improve the sanitary conditions of the State and would be really beneficial from every point of view to the entire State. Above all, it would tend to check, at least, the headlong and dangerous rush from the rural regions to the big cities.

If as much had been known 300 years ago about water-power development and the generation and transmission of electricity as was known in those days about sailing the seas, the water-powers of the earth, like our harbors, would to-day be publicly owned.

Here in the Adirondacks and along the St. Lawrence River in Canada, scheming politicians and greedy corporations have long been planning and are now actually arranging to form an International Water-Power Trust. This diabolical scheme to exploit for the benefit of a few, the natural advantages which God gave to this region, to be used for the benefit of all, should not only be throttled and buried beyond hope of resurrection, but the State should at once proceed to work out a constructive plan to harness these great water-powers of the Adirondacks, the Catskills and those in Western New York, and use them to ease the burdens of all, primarily those who live in the vicinity of those water-powers. **Under no circumstances should any power from the streams of New York State be taken from the borders of this State.**

We have been almost criminally negligent in dealing with this water-power problem. I know of an undeveloped water-power in the Adirondack Mountains which was bought several years ago by one of the corporations which is now actively engaged in framing up this International Water-Power Trust. The company paid about \$65,000 for this water-power. Competent engineers tell me that it is worth, just as it is to-day, at least \$300,000. Business men of the highest integrity who have tried to purchase this water-power site, have told me within the past thirty days, that nothing short of \$500,000 would buy it. In fact, it is not for sale. It is assessed on the assessment roll of the town in which it is located for \$9,200!

Small wonder these shrewd heads of corporations can buy up these natural resources of a community and carry them along for decades if need be. They have practically no taxes to pay on them.

Either the State of New York should condemn and take over this undeveloped water-power at substantially what it is assessed for and develop it, or else it should be assessed for what it is claimed by its owners to be worth!

And there should be an irresistible demand for prompt and determined action!

Letters have been sent to all the candidates for Governor in all the political parties in this State, asking each to define his position on this vitally important matter. Hon. Job E. Hedges, one of the leading candidates for Governor on the Republican ticket, in an announcement made public on Tuesday, September 17, made the following very complete and satisfactory reply:

"There should be an enactment providing for some method of utilization and conservation of natural resources, including water-powers of the State, but only upon such a basis as will confer the greatest benefits upon the localities directly affected and through them, ultimately and really to the benefit of the entire State. Taxes are levied to build good roads, to build a Barge Canal, which a majority of the people at the polls have expressed their belief will benefit the commerce of the State and directly and particularly New York and Buffalo and the cities and towns along the route of the canal. Taxes are also levied with reference to improvements which directly benefit particular localities and so, inferentially the State. There is no reason why we should not pursue the same policy on behalf of the people of the localities wherein unutilized natural resources exist in the building up of those regions in this State, which are now inaccessible and of scant population, but which are susceptible of widespread and most profitable development."

As fast as I hear from the other candidates, I will take pleasure in making public their replies at the earliest opportunity.

We have about a quarter of a million voters up around this Adirondack country and all we ask is a fair deal. These Adirondack counties last fall cast 22,600 more votes for the Barge Canal Terminal proposition than they ever cast before for any canal measure. Without those extra 22,000 votes, the Canal Terminal proposition, knifed in the very homes of its pretended friends in the cities of New York and Buffalo, would have been buried along with the Constitutional Amendments. The Adirondack counties, many of them miles and miles from any canal or waterway, pulled it through for the Canal counties. All we

ask in return is that the State now do as much to develop our natural resources for **our** benefit as it has done in developing the natural and artificial advantages of other sections, of the State for their benefit. We want fair play, that's all. No more, but not less.

If our God-given streams are to be turned over to a Water-Power Trust and the power carried away from our section to still further increase the prosperity of the more-favored sections, then I have a notion that when the votes are counted, there will be some surprises.

As a nation, we have done very little towards developing our internal waterways. Almost every other nation is spending enormous sums in perfecting its navigable streams and artificial waterways. We are spending \$400,000,000 to build the Panama Canal. We should spend at least \$75,000,000 a year in improving our own inland waterways. And we can well afford to do so. New York City alone is spending \$500,000,000 to provide herself with an adequate water supply and improved transportation facilities.

With a nation of 90,000,000 people, with bumper crops of millions upon millions of bushels of wheat, of corn, of oats, of apples, of potatoes,—rich beyond the wildest dreams of our forefathers,—we must lead the nations of the world in the improvement of our highways and our waterways. (Applause.)

BARGE CANAL TERMINALS.

PRESIDENT HILL: We are to have an address by John A. O'Connor, Barge Canal Terminal Engineer, who will discuss the question of Barge Canal Terminals in the absence of the State Engineer and Surveyor, the Hon. John A. Bensel, who was unavoidably detained. I take pleasure in presenting Mr. O'Connor.

MR. O'CONNOR: Mr. President and Gentlemen of the Waterways Association, the building of the Barge Canal terminals is very popular and there is a growing enthusiasm over it. Every city along the line of the canal from New York to Plattsburgh and Buffalo is showing great interest in the matter. I call attention to the annual report, which is now available, and an additional supply of 500 copies is now at Albany, the original edition was exhausted at first; all of you who are interested in the report can now secure copies. This report was very painstaking and a careful resume of the subject. A new order of things in relation to terminals is now in vogue. We have organized a bureau known as the terminal bureau and the important question, I assume, before you now is, what has been done? Since the 1st of January the organization of the Terminal Department was undertaken and after procuring quarters in Buffalo, Syracuse, Albany and Oneida to carry on the work, the forces were recruited from the engineer's forces on the Barge Canal surveys. I have no desire to cover the emblem of liberty, but it is the only place I could tack that map I have had prepared so you may see the geographical location of the various villages and cities where it is proposed to build and equip terminal facilities.

To date, fourteen contracts have been completed, that is, plans and specifications are out and the contracts have been approved by the Canal Board and turned over to the Superintendent of Public Works. Many of them have been let. Those that have been completed represent an expenditure of over a million dollars. They include the smaller terminals where no great thought was necessary, simply a matter of providing dock walls and necessary channel excavations, the grading of the original way or immediately adjoining upon the site. The terminal contracts have been divided into three classes; the first, the preparation of the substructure, the building of the substructure, the sides and the pavements. That is one class. That is all that is being done at present. The construction of the buildings, the installation of the machinery, is something to be considered in the future, when we have a place to put them. The City of New York, the old eastern division, is another unit, consisting of the Champlain Canal and the Erie Canal as far west as Buffalo, with headquarters at Albany; the middle division, with headquarters at Syracuse; and the western division with the headquarters at Buffalo. Plans are under way for the piers and dock walls at Buffalo and Syracuse, Utica and many of the other cities on that map. The

cities and villages are represented in ink, indicating the plans that have been completed; in the City of New York the twelve or fourteen terminals are indicated by the black dots, which extend down the Hudson River around the Island at the east side; also a few in Brooklyn.

The plans for the enlargement of the works, of course, will go along slowly. Of course greater consideration is being given to them and we think we are getting along very nicely with the terminal situation. The construction work is about to be started in twelve or fourteen places. We hope to have some of them started this winter. Troy and Utica will have both appropriations, exceeding a million dollars. We expect to have this before the Canal Board within three weeks. I believe that is all I have to say. I believe you are interested mostly in the progress that we are making.

EDWARD N. McKINNEY, Albany: In behalf of the Albany Chamber of Commerce, I want to extend an invitation to this Association to hold its next annual Convention in Albany. As you all know, Albany is most conveniently situated and is most accessible from all parts of the State. I will not take your time to tell you the attractions of Albany because every delegate here has probably visited the Capital City. I want to say in behalf of the Chamber of Commerce, if you honor us with this Convention next year, we will do our utmost to make your stay with us most profitable, agreeable and pleasant.

PRESIDENT HILL: The invitation is most cordially received. I assume that if the Convention does not dispose of the matter now the Executive Committee will be very glad to take the matter into consideration. I desire to say in regard to Albany it is very centrally located and very easy to be reached by delegates from all over the State. I know the Executive Committee, if the Convention does not act, will be very glad to entertain that invitation.

MR. CHARLES E. REID: Before you take up any other business, may I ask, Mr. Chairman of the State Engineers, Mr. O'Connor, if any city or cities have been as yet selected for the Harlem River Ship Canal for the terminals?

MR. O'CONNOR: No, sir; the only sites in the City of New York that have been approved yet are Brandock's (?) Bay and East Point and Crown Point Terminals and the Port of Call on the Hudson side.

MR. REID: At Dykeman street?

MR. O'CONNOR: Yes.

PRESIDENT HILL: You will be pleased to hear a brief statement from our friend, Virgil K. Kellogg of Watertown, on the legal aspects of the title to rivers under the Dutch or under the British sovereignty or anything pertaining thereto.

MR. V. K. KELLOGG (Watertown): Mr. President and Gentlemen of the Association: I was not informed or aware at the time of the conclusion of Mr. Decker's paper that Senator Ferris was to favor us with his most admirable address, with practically all parts of which I am sure the people of Northern New York heartily concur. (Applause.)

In saying what I now say I wish to disclaim any representation of any other person or the attitude which the people of Northern New York or any other section of New York will take in regard to it. I simply propose to say to such of you as are not lawyers and such of you as are lawyers but are not familiar with the proposition, to tell you what I understand the rule of law is which governs the right of property and construes that right of property in the streams of the State of New York. The Dutch, who were the first proprietors of the State of New York, were a civil law nation; that is, they were governed by that which was termed the principles of the civil law, the old Roman civil body. By the terms of the civil law the State was not only the paramount but the actual owner of all streams within the State; that is, the bed of the stream

and the water that flowed in the stream, all of those instances, hereditaments and appurtenances which we now term riparian rights, together with the right of fishers in the stream. On the other hand, the common law, which we inherited as an English Colony, and which is the superstructure upon which all law in the State of New York rests, entertains an entirely different view of the ownership of streams and of the rights of persons whose property abuts on streams, in the stream and in the bed of the stream. With this explanation, the Courts of this State in applying these divergent principles, these divergent legal doctrines, have said that during the Dutch regime the Mohawk River and the lands adjacent thereto have been settled and certain legal decisions have been made concerning those rights. They have said that the civil law obtained so far as the Hudson River and the Mohawk River were concerned. So that to-day we have two systems in the State. We have a civil law on the Hudson and the Mohawk and we have an English common law pervading and governing and determining, fixing the rights of the riparian owners on all of the other streams of the State. We in this northern section of the country are deeply interested in this question. Why, were it not for the fact that the Black River flows through this valley and affords us this splendid water-power, you would not be receiving the entertainment at our hands you are to-day. There would not be any Watertown here. There would not be any aggregation of population here except a very rural agricultural community. So you can readily see that every man who lives in this community and every person who receives benefit from the fact that this community exists, is deeply and vitally interested in maintaining and upholding this principle. The Courts of this State, following the line of decisions that have been made in the matter, could under the civil law have upheld and maintained the doctrine of riparian ownership without variation. In 1797 this entire northern section was granted and from that time until now it has been owned under that grant. There has been no grant of land from the State of New York from that time until now in which that original grant of 1797 did not exist as a link in the chain of title. By the terms of that grant, which was bounded practically by Oswego County on the west and all the way around by Lake Ontario and the St. Lawrence River, over to what was known as the Totten and Crossfield purchase on the east, a portion of St. Lawrence County being included as I remember in that, down through to the southern point of St. Lawrence County and thence westerly to the place of beginning, was granted in a solid body to the one purchaser, a man by the name of Alexander Macomb. There was no question and there never has been a question from that time till now that the State of New York for the consideration that was paid to it, did not part with every interest it had in the land except its sovereignty. The land has been settled; it has been subdivided many times, divided and sold to actual settlers and is now enjoyed by them under the effect and under the construction that I have said the Courts have given the common law and the rights that the riparian owners acquired under that grant in the stream, and to-day when this period of enlightenment is at its very apex, to suggest that a new doctrine should be injected into it now whereby vested rights that have been recognized and acquiesced in and which were duly paid for and enjoyed to the fullest for 100 years is a wild dream that should be set down upon by every person who has the welfare of America at heart.

Chairman William B. Jones, Albany, presented the report of the Auditing Committee, and upon motion the report was adopted. The report showed a balance of \$92.50, and recommended that certain bills be paid.

Chairman Olin J. Stephens, New York, presented the report of the Committee on the Roll of the Convention, and upon motion it was adopted.

Nelson B. Killmer, Brooklyn, read the paper prepared by Commissioner of Docks Calvin Tompkins, New York. Mr. Tompkins was unable to be present. The paper was on "Trade Routes of the State of New York," and was as follows:

TRADE ROUTES OF THE STATE OF NEW YORK.

By Calvin D. Tompkins, Commissioner of Docks of New York.

The Mississippi Valley, the St. Lawrence and the Mohawk and Hudson Valleys constitute the three great trade routes of the country east of the Rockies. They were utilized first by the canoe, then by the canal boat and then by the railroad. The shallow rapids of the other rivers prevent their navigable use far back from the sea; the grades of the railroad lines which follow them are steeper than those through the three great arterial trade routes. The cheapest transportation between the interior and the sea, whether by rail or water, will always be conducted through these three valleys.

The most important route is that passing through the Empire State. The significance of this national highway has not been sufficiently appreciated by the citizens of this State since the early days of the canal before the private policy of the railroads outweighed the public canal policy of the State. Soon after the canal was opened railroad development began, and with the exception of the early period noted, this trade route has been discriminated against. Politicians and contractors have impaired its usefulness, added to its cost, neglected its improvement and left it unprovided with suitable terminals. The railways have been permitted to enter into destructive competition with it, without being compelled to pro-rate; and, finally, the Interstate Commerce Commission has invoked the power of the Federal Government to limit its normal influence upon parallel railroad rates. In spite of all these needless harmful influences, which have in part nullified the efficiency of the country's resources — our national highway has made New York the greatest commercial port of the world and the greatest manufacturing community in North America.

All the East and West roads have established their eastern tide-water terminals here, either by building direct rail connections or through the instrumentality of coastwise steamships. The cheap handling of food, fuel, raw materials and finished products in and out of the Port of New York has made it the metropolis of the country. The port is growing rapidly and will continue to do so in spite of its lack of enterprise in failing to provide modern terminal facilities. The danger is, not that the City's growth will slacken, but that our great City may develop in a disorderly manner.

Boston, Philadelphia, Baltimore, Norfolk, San Francisco and New Orleans, and all the Canadian ports, are planning with their waterfront terminals far in advance of their needs. New York alone is unprogressive. Owing to the division of the port into four grand divisions by the harbor waters, the physical difficulties incident to organization are much greater than elsewhere; and the terminal rivalries of the railroads are intense. Finally, the rapid growth of the City and the insistence of the community upon the prompt provision of local conveniences, the need for which is appreciated by all classes of citizens, has, for the time being, relegated the problem of port organization to the background.

The Port of New York is administered by the City. The Dock Department is a part of the City Government, and its functions and responsibilities are not understood as they are in smaller communities where the fundamental relation of port to city growth is popularly appreciated. It may be probable that this condition of comparative neglect may continue for many years, and thus afford the opportunity for the more rapid industrial expansion of rival communities.

In any event, it should be the policy of the Empire State, taking advantage of the cheapness of the water and rail route from New York to Buffalo, to build up the industries of the interior cities of the State situated along the line of the canals. These cities have better opportunities for industrial development in their relation to cheap land, food, fuel and raw materials than have the seacoast rivals of the great Port of New York — where one-eighth value of the manufactured product of the country is now fabricated.

No other inland cities can compete for over-sea trade with the congeries of cities of the Empire State strung along the lines of its canals. The Hudson River and the Erie Canal are not more or less than the extension of the harbor waters of the Port of New York into the interior of the country. This great water highway, together with the railroads paralleling it and the adjacent fac-

tory sites, afford the opportunity for the greatest commercial and industrial expansion in the country. The exceptional trans-shipment facilities of New York are more available for our cities than for any other cities in the United States. No other inland cities can compete with them at all for over-sea trade.

Population follows the pay-roll. Eighty per cent. of the population of the State of New York, and 90 per cent. of its ratables are already located within a strip of land five miles wide on each side of the Erie Canal, including Buffalo and New York terminals. These facts illustrate the preponderating advantages over competitors which the trade route through the central valleys of the State affords our central cities.

The recent railroad rate decision of the Interstate Commerce Commission, dividing the country up into traffic zones, will tell heavily against eastern manufacturing communities which cannot take advantage of water competition. The world-wide trans-shipment facilities afforded by the steamship lines at the Port of New York afford the terminal basis for an immense industrial development along the Erie Canal.

The rapidity with which railroad traffic is increasing also makes it imperative that the canal shall be equipped with the best terminals for handling coarse freights so that the railroad lines across the State may be relieved of the necessity of carrying these heavy and bulky products. Unless this shall be accomplished, serious freight blockades will soon be inevitable. It is distinctly to the advantage of the railroads that they should be relieved of the large volume of comparatively unremunerative, low-class freight, which they are now transporting.

The cities of the State of New York should prepare themselves to attract the surplus commerce and industries of the Port of New York, which Montreal, Boston, Providence, New London, Philadelphia, Baltimore, Wilmington and Norfolk are by their enterprise endeavoring to divert to themselves. English industries are steadily drifting from old-time proximity to the coal fields where power was cheap, to the coast where receiving and shipping facilities afford more than compensating advantages. A similar industrial shift from the interior to the sea is manifesting itself in this country; and as a consequence of inevitable railroad rate regulation, this tendency will be accentuated.

In anticipation of the Atlantic Deeper Waterways Convention at Troy next year, I submit the above facts and suggestions in the hope that they may afford the basis for a general discussion. (Applause.)

Adjournment until 8 o'clock was taken.

EVENING SESSION.

President Hill called the meeting to order at 8:30 o'clock.

Acting Secretary Frank S. Ellsworth present and acting.

LOCATING FRICTION IN TRAFFIC SYSTEMS.

President Hill announced that Colonel E. C. Pruyn, Schenectady, who was on the programme for a paper on "Electricity in Canal Operation," was unavoidably detained, and that his place would be taken by Robert H. Rogers, Schenectady.

Mr. Rogers spoke upon "Locating the Friction in Traffic Systems." Mr. Rogers said:

Throughout the world, on both land and sea, there is an ever increasing ebb and flow of commerce. Food stuffs, raw materials and manufactured goods are produced intermittently, in varying quantities and in specialized localities. Every community, civilized or otherwise, therefore has demands to be satisfied by other communities and in return furnishes requisites to cancel the debt.

It is the work of commerce to equalize the potentials of supply and demand. With the advancement of civilization, which increases demands, and the perfecting of the tools of commerce, which allows of equalizing the smaller difference of potential, the work has grown to enormous proportions. To avoid long strings

of figures we will divide national statistics by the population and show the annual requirements of the average individual.

To supply his needs and take away his surplus production the railroads must haul ten tons of freight 250 miles. Three more tons are handled by water (coastwise, lakes, canals and rivers) for him and another ton crosses the sea on his account. This makes a total freight movement of fourteen tons per year for every one of the 92,000,000 people in this country.

The average individual consumes over eighty pounds of sugar in a year, of which forty pounds is raised here and forty pounds imported. On the other hand, he uses twenty-five pounds of cotton and exports thirty-five pounds to supply individuals outside our boundaries.

To illustrate how freely merchandise flows to equalize supply and demand, note the following record of a shipment of cotton:

This cotton was shipped from Galveston, Tex., to New York storage. Next it went to Cohoes, N. Y., then back to New York storage, thence to Liverpool storage. A little later it was returned to New York and was then sent to Montreal, Canada, for manufacture. The whole series of movements have been caused by a gradual rise in cotton values from ten cents per pound at Galveston to fourteen cents in Montreal.

So much improvement has been made during the past fifty years in the hauling machinery with which commerce is equipped that the actual cost of hauling is now very near the irreducible minimum. By rail, freight is hauled for about three mills per ton mile and by water the cost is about seven-tenths of a mill per ton mile. However, there is another feature to be considered, namely, the terminals which have not been improved and where the costs are constantly going up instead of down. The entire commerce of the world by land and sea must repeatedly pass through terminals with only hand labor to help it over these bare spots. If the losses in the machinery of commerce could be clearly segregated, the terminals would stand out in big figures that in any other machine would immediately bring every effort to bear upon its reduction to more reasonable amounts. Facts are stubborn things and bear repeating. The terminal cost in large cities on a given shipment exceeds 1,000 miles of hauling cost. With marine traffic the condition is still more marked, for the terminal costs at New York and Liverpool exceed the hauling costs of the 3,000-mile voyage. It is as though a swift and smooth running vehicle had to be pushed by hand through frequent and increasing sand pits. Two things are contributing to the rising terminal cost, congestion and a higher wage scale. Expansion of terminals is difficult in large cities and traffic is increasing three times as fast as the population—congestion is followed by worse congestion. Wages have increased from \$1.00 and \$1.25 per day to \$2.50 and \$3.00, while the laborers have depreciated, at least in intelligence. It recently took 300 men ten days to unload the following interesting cargo from a ship having a standby charge of \$300 per day:

1327 cases curios	2409 bags tea sweepings
756 cases bristles	5980 bags copra
17 cases hats	500 bales cassia
33 cases human hair	3325 bales hemp
109 cases horse tails	171 bales strawbraid
10 cases ess oil	116 bales sheepskins
2 cases portieres	1389 bales wool
10 cases tobacco	199 bales bamboo
3 cases medicine	35 bales goatskins
64 cases albumen	27 bales goatskin rugs
15 cases rhubarb	87 bales hats
500 cases antimony	168 bales cotton
140 cases canned crabs	85 casks ginger
135 cases crackers	3322 casks wood and nut oil
25728 cases tea	2391 rolls matting
14 cases effects	17828 pcs. copper
7 cases prev. ginger	103978 mats sugar
731 cases groceries	14 empty cylinders

At a prominent and well organized railroad transfer terminal 300 men are employed in re-arranging the contents of about 400 cars per day at a labor cost of thirty cents per ton.

Freight handling offers the greatest field for the profitable application of electrical machinery. In every other large industry hand labor has long been superseded by machinery and in most cases a second transition has taken place more recently, namely the application of electric power to the machines themselves. This latter transition has proved profitable to the users; what then of the great industry in which the change can be made in one step from the hand labor of fifty years ago to the highly efficient electric driven machine methods of to-day?

Because of the tremendous bulk of work, concentrated in space and time, that arises in connection with marine traffic, the handling of ships' cargoes is the phase of freight handling that offers the greatest return on an investment of ingenuity, good management and money.

(Woolley in Jan., '12, "System.")

"For here the human worker still reigns supreme on the docks in all his primitive wastefulness. He rolls up an annual pay roll of millions; he congests traffic by his complex and cumbersome motions. He strikes when he pleases and ties up whole harbors.

"In view of the immense volume of freight unloaded from vessels every day the paucity of handling facilities viewed from the standpoint of modern business management is almost incomprehensible.

"Half the commerce of the nation comes through the Narrows and is distributed from the piers and wharves of Greater New York. It comes and goes in leviathans but is seized upon by an army of human ants who spread themselves over the docks in a maze of inefficient and costly motion."

In the words of Henry R. Towne, of Yale & Towne, before the Interstate Commerce Commission: "Millions of tons of material are moved every day by the crudest kind of labor. I am absolutely sure that mechanical appliances could be successfully availed of for the greater part of the work."

That such a condition should prevail so long is due to the fact that those most deeply involved "cannot see the forest for the trees." As the superintendent of a prominent terminal in New York Harbor said: "Some time we may do things better, but we have got along a good many years and I reckon we can stand it a while longer. Whose business is it anyway?" Another thing that has maintained this "before the war" condition is the more or less intermittent periods of activity at a given pier or wharf and the multiplicity of interests involved in the traffic. The first tends to show a low load factor for a machine and the second spells divided responsibility.

Besides the multitude of existing marine and railway terminals, many new and great terminals are under construction or projected. The Panama Canal will give a great impetus to commerce, making necessary terminals at the canal and at many Gulf and Pacific ports. The New York State Barge Canal is to be equipped with nearly \$20,000,000 worth of terminals of which the State Engineer and Surveyor says: "At all terminals particular attention will be given to freight handling devices to the end that the Barge Canal terminals may excel in this particular and fix the conditions that they may meet."

Whenever opportunity offers, and that is often to men who travel much, this great industry of freight handling should be carefully reviewed especially by engineers, so that no phase of the work that may better be done electrically will be overlooked and continue to add its labor burden to the already overloaded terminal cost. (Applause.)

ESSENTIALS TO BE OBSERVED.

PRESIDENT HILL: We are very glad to hear your views, Mr. Rogers, on this subject. We will now have the pleasure of listening to the man who made the survey for the Barge Canal system through this State as State Engineer and Surveyor and held office under the State until he saw that work fairly under way and afterwards was appointed to the important position of Chairman of the Advisory Board of Consulting Engineers and who perhaps has left as great

an impress on Barge Canal construction as any living man, a friend of waterways and rails from Watertown or Jefferson County. I take pleasure in presenting to you the Hon. Edward A. Bond. (Applause.)

Mr. Bond's theme was "Essentials to be Observed in Preparing Plans for Navigation of the State's Waterways in Order to Maintain the State's Commercial Supremacy." Mr. Bond said:

You have heard, or will hear, from able speakers regarding water transportation in Northern New York, along the south shore of Long Island, the Flushing and Jamaica Bay Canal, the improvement of Harlem River, Barge Canal Terminals and in regard to standard barges for our canal system, and, as I understand it, national highways across the State. All of these are commendable, and if the work is honestly and efficiently handled and our plans laid so that all work done will fit into future plans, say 100 years hence, without having to tear down and reconstruct, the deliberations of this Association will have accomplished much. You have assigned to me a consideration of the essentials to be observed.

The latter part of the 18th and the opening of the 19th century, New York was not first among the original colonies, or some of the original thirteen States then composing the Union—a century or so ago the Carolinas, Massachusetts and Virginia surpassed it. The turning point came in the construction of the Erie Canal, connecting the Great Lakes with the sea. Now, everything focuses on the Empire State and centers in New York, which is destined to be the greatest city in the world, only being surpassed now by London. (To those familiar with the manner in which London city authority is administered, New York City is looked upon to-day as being the greatest city of the world).

Our State surpasses the whole of Canada in population, commerce, wealth and industry, and is without equal among the States or countries of the Western Hemisphere.

Commerce is its mainstay. Now that we are soon to see the completion of the Panama and Barge Canals, it behooves us to take a look forward and so plan that our friendly rivals of the Mississippi Valley do not take from us, commercially, that, which from natural conditions belongs to us.

We are at the border line and the foot of navigation of the Great Lakes, where the St. Lawrence River gives 100 miles, Lake Ontario, 210, and Lake Erie, 70; a total of 380 miles of navigable frontage at the terminus of the lake navigation all the way from Westfield, near the Pennsylvania boundary, to Fort Crompton, near the Canadian boundary to the east, with all the possibilities that the five Great Lakes give with our own State, and that of Pennsylvania, Ohio, Michigan, Indiana, Illinois, Wisconsin and Minnesota to the south and west thereof, and the Dominion of Canada to the north.

In addition our own great northwest with its railroad connections touching the lakes at different points between Chicago and Duluth, to say nothing of the prospect of our gaining much from the great Canadian Northwest, with its network of railroads connecting with the upper lakes—both of these Northwestern Empires now being more rapidly developed than any section ever before known in the world's history. Tributary to these lakes, the eight States before named have about 14 per cent. of the area, and about one-third the population of the United States, exclusive of outlying possessions.

Many persons assume, as nearly all our homestead lands have been preempted, we may soon reach the point where our transportation facilities are sufficient for the future. Such, however, is not the case. With our system of improved roads now being constructed, we will obtain excellent results if we plan wisely.

I have studied the problem of improved roads in our State from 1898 to the present time. We are limited to four trunk line roads from the eastern to the western border of our State, stretches of these closely paralleling our canal. What we now want is lateral roads leading north and south from our eastern border to the canal and Lakes Ontario and Erie and in the northern portion, viz.: Oswego, Jefferson, Lewis and St. Lawrence counties, running northerly to connect with Lake Ontario and the St. Lawrence River. For this

purpose, we want another \$50,000,000. Then, with the new method of delivering package freight (which can be done equally well with farm products), we can bring into use intensified farming, and get the products of the farm quickly to market, and be prepared to take care of 650 people per square mile in the State of New York as completely as described hereafter for Belgium. And by developing the iron industries, textile and other manufacturing enterprises, as later described herein, we will have all the requisites.

With the above mentioned roads completed, and our proposed system of local harbors on the new canal so arranged that bills of lading can be used for canal shipments, the same as our railroads now use, we can utilize the canal for local and through freight to better advantage than ever before.

I am reminded by the call of the Atlantic Deeper Waterways Association for their recent New London meeting, that the citizens of all the Atlantic Coast States from Maine to Florida are about to secure safe and low freight rates.

By a study of their report of the Fourth Annual Convention held at Richmond, Va., in 1911, I ascertain that the active citizens of all these coast States mean to carry the project through. In fact, we may now call the Cape Cod Canal completed, constructed by private capital. It is eight miles long and saves 148 miles of outside navigation. It is their project No. 1.

No. 2 is the New Jersey Canal, thirty-four miles long, saving 184 miles outside navigation, and avoids the dangers of Barnegat Shoals.

No. 3 is the Chesapeake and Delaware, about fourteen miles long, saving 318 miles outside navigation, and avoiding the dangers of Cape Henlopen.

No. 4, Chesapeake & Albemarle.

No. 5, Albemarle & Pamlico.

No. 6, Beaufort Cut.

These last three being a total of about forty-nine miles, saving ninety miles outside navigation, and avoiding the dangers of Cape Hatteras; or, a total of 104 miles of construction, saving 740 miles outside sailing, and avoiding the really dangerous points between Boston, Mass., and Wilmington, N. C.

The work of the Atlantic Deeper Waterways Association is, indeed, a laudable one, and, when completed will give the owners of our new type of barges an opportunity to use them during the closed season of canal navigation in the coast trade from New York—both north and south.

The approaching completion of the Panama Canal calls for our attention at this time, as its completion and operation will no doubt make great changes in the lines of water transportation. A glance at the map will show the relative position of the Atlantic States, reaching from Florida to Maine, as compared to the Central Mississippi River States. The distance from Colon to Jacksonville, Florida, is about the same as from Colon to New Orleans, and it will not be strange if there is a definite commercial rivalry between the Gulf and Mississippi River States and the Atlantic Coast States for the business both to and from the Panama Canal.

In my address at our last meeting in Buffalo, I mentioned the Port of Dursburg-Ruhrort, located on the River Rhine some forty-five miles from the boundary of Holland, as being the greatest inland port of Germany, if not the greatest of the world, and the busiest industrial section of Germany, describing it as "a closely woven network of railroads covering the entire region—coal mine succeeds coal mine, chimneys, elevators and heaps of mine refuse are everywhere to be seen." Thickly populated cities and centers of trade lie close together humming with industrial activity—furnaces, iron and steel works, foundries, factories, zinc and copper smelting works and many other manufacturing, some of them of the largest type, unite in making a picture of industrial development unrivalled in all Europe. Within this zone the City of Essen, with its Krupp Works is located. This zone is but 1-150th part of the German Empire, but holds 1-22nd of its population, and supplies their railroads with one-quarter of their entire freight traffic.

In the eastern half of our States, we have two great natural deposits of iron-ore—one centering at Birmingham, Ala., and the other near Duluth, Minn. Birmingham also has the advantage of coal near by, while we depend upon Duluth to bring the ore either to Pittsburgh (the great manufacturing center for

iron), or to various lake ports like Cleveland, Buffalo, etc., where the various ores can be blended and the coal cheaply conveyed for reducing the same.

By a little study of the maps showing the eastern half of our States, it will be observed that at Duluth, Milwaukee, Chicago and possibly Toledo, a slight advantage might turn the traffic through the lake region and on to the Atlantic Coast States, or through the Mississippi River and Gulf States, whichever has the best advantages and could produce results the cheaper.

I call attention to this from the fact that soon after the completion of the Panama Canal, our own Barge Canal will be completed, giving some 550 miles of navigation through rivers, lakes and regular canal section at a cost, including terminals, of about \$138,000,000.

To those here who are not familiar with local conditions, I wish to speak of the proposed Sackett's Harbor and Carthage extension of the Barge Canal, following the general course of the Black River, which, with its tributaries, gives approximately 1,600,000 tons of freight per year.

We have extensive deposits of magnetic iron-ore in St. Lawrence County, at Jayville, Benson Mines, Newton Falls and Clarksboro, and large deposits of hematite ore in Jefferson County adjoining St. Lawrence County, at Antwerp, Sterling mines, and Keens and in Lewis County near Port Leyden, again Sterling to Charlotte, a distance of fifty-five miles paralleling the shore of Lake Ontario and near the surface are outcroppings of hematite ore. No doubt with a more careful geological study more can be found in this section of the State, but I have only mentioned those which have been worked.

At the First Annual Convention of International Deep Waterways Association held at Cleveland, Ohio, in 1895, Mr. Arthur J. Moxham, President of the Johnson Steel Company of Lorain, Ohio, said:

"Trade is exchange: Exchange means movement from one spot to another spot. Through the whole civilized world there exist steady and continual tides or currents of trade, just as distinct as that of the gulf stream, and as powerful and certain in their action as that of the Mississippi River. During the whole of the recent depression the Mahoning and Shenango Valleys poured their pig metal into Pittsburgh, and Pittsburgh poured its steel into eastern markets. During the same period Chicago poured its steel into the west, and both Pittsburgh and Chicago found the current of their trade met in equilibrium in the Central Lake district. During this same period, eastern steel plants and blast furnaces were idle; swept silent for the time being by the current passing their doors. It needs no cost-sheet to prove that the central district was at this time making cheaper steel and iron; nor does it need argument to prove that the district tributary (as this district is) to the Great Lakes, is the natural home of the iron and steel industry of this country.

"The first analysis does not stop here. What of the rest of the world in our comparisons? If we turn to the past, we have no current of trade outwards; but we have something else that is worth noting. From 1871 to 1887 there was a current, and it was a steady one; there was no doubt as to its volume; nor any as to its direction. Its volume was large, its direction this way. This country was a steady importer of iron and steel from Europe. In 1887 this current slackened up; in 1892 and ever since it has been at a standstill to all practical intents, so far as staple products are concerned.

"Taking steel blooms, the largest steel staple free from pool influences: In 1889 the price was \$35 per ton; during the succeeding years until 1894 the decline was steadily downward, till the figure of \$15 per ton was reached. Even in rails, a strong pool has scarcely done more than regulate the steady progress of a decline; for in 1889 the price on rails was \$34 per ton, and in 1894 it reached \$22. In the interval, a stubborn and steady decrease. Is it not rational to predict which way the tide is to turn? Does it need any prophecy to-day to say that the United States is to be the future home of the iron and steel industry?

"For the next generation the Great Lakes district will be the controlling influence in the iron and steel trade of the world."

When Mr. Moxham made the above statement, he was beyond question, the greatest authority in this country regarding the best location for the cheap

manufacture of iron. Since his statement was made there has been much discussion regarding the Lake Erie and Ohio River Canal. Surveys have been made, and that canal may soon be built, either by private capital or otherwise. The present plans are for a canal substantially the size of the Welland Canal, capable of handling 13,000,000 tons of freight per year.

The Michigan Limestone Company has recently been formed and has constructed a large plant near Alpena, Mich., on Lake Huron, so located that they can deliver crushed stone to all iron furnaces on the Great Lakes from Duluth, Milwaukee and Chicago on the west to Buffalo, Oswego and Ogdensburgh on the east.

These two improvements, the canal from Lake Erie to the Ohio and the limestone plan, give all Mr. Moxham called for to make "the lake district the controlling influence in the iron and steel trade of the world."

If the above canal is not constructed soon, our own Barge Canal will be useful for the immediate practical results from the fact that at Ithaca and Watkins, the head of the finger lakes are within a few score miles of the coal fields of Pennsylvania, and we can easily supply our own State and the lake region with coal in that way.

To fix in your minds what we may hope for in the future, I cite what has been accomplished in the City of Antwerp in Belgium. In 1850 the seagoing tonnage of that port was 200,000 tons; it increased steadily up to the year 1900, when it was 6,700,000 tons, and in 1907, the last report we have, it was 11,182,226 tons, a constant increase for fifty-seven continuous years, plainly showing it has not yet reached its maximum.

Belgium now has the greatest population for its area of any country or nation on earth, containing 7,400,000 people in an area of 11,400 square miles, averaging 650 people per square mile.

Little Belgium gives us a practical example of what we may do in this country, and applied to the Empire State, we should look to the future for a population upward of 31,000,000 of people within its borders. We now have substantially 10,000,000 and from this time forward we should so lay our plans that the money we spend will be of practical use in this great development of the near future, without any portion of it spent otherwise.

We want the proposed Sackett's Harbor and Carthage extension of the Barge Canal constructed. We want to arrange so that there will be a great center for the manufacture of iron at Buffalo, and the same extended to include Tonawanda and Niagara Falls (a greater Buffalo, if you wish); Rochester, which will soon include Charlotte in its borders; Oswego, Rome and Utica—with the possibilities of similar conditions at Watertown and Ogdensburgh. This, in connection with textile manufactories in this same era, gives reason to believe it is no idle dream to hope we will yet attain the same prosperity in the section under discussion that I have spoken of at Dursburg and Essen in Germany. (Applause.)

PRESIDENT HILL: I think you all can agree with me that the State of New York made no mistake when it put Mr. Bond at the head of its canal construction. (Applause.)

CONSERVATION AND CANAL TERMINALS.

PRESIDENT HILL: We are now to have the pleasure of hearing from a gentleman who is known as the Nestor of canal advocates in this State and still he is as young in spirit as any of us. Without disparagement to the work of any person, I think it will be conceded that Hon. George Clinton has rendered more important services to waterways than any other man in the State. I appreciate all that Captain Clark and others have done to keep up the interest during the period of canal abandonment, but thereafter and later during this formative period of canal improvement and enlargement, when counsel has been needed, all have turned to Mr. Clinton and have been wisely counselled and found light. (Applause.) I have now the pleasure and honor of presenting the Hon. George Clinton of Buffalo.

MR. CLINTON: Mr. President and Gentlemen: I have always admired the Senator's polite way of putting things. He has in eloquent and very flattering terms expressed the idea that in canal counsels I was always playing the part of the critic. He did not, however, state his sentiments fully. He has not said a word to you about the trouble I have given them. I have not been long in the canal improvement. As near as I can recollect now, it is only thirty-five years.

I am down to speak to you upon Conservation, and I believe Canal Terminals. The assortment of subjects is somewhat diverse. Had it been Conservation and Canals, I would not have been troubled to make the connection. With your permission, I will say a word or two about canal terminals first, because it is the subject requiring the least consideration at this time. I say that, meaning that the general features of the subject require the least consideration. The particular feature of terminals at different localities requires of course a great deal of consideration, but were I to discuss or attempt the conditions existing at different points where terminals are to be constructed, you would be returning from your automobile trip before I was half finished. The Canal Terminal bill passed. I have no doubt that it would have passed by a very much larger majority than it received had it not been for two things; first, the people were confronted at the last election with the variety of constitutional amendments, with the usual result in such cases that the people would not discriminate, could not very well, and they rejected them all, voting as they did upon the question of canal terminals at the same time. Many a voter, thousands of voters, put the mark on the ballot that indicated the negative, or using the machine pulled the wrong lever for the whole batch. The next reason for the small majority is easily understood; consideration of it branches into a variety of subjects. When the canal improvement was being considered, it met with violent railroad opposition. During the course of educating the people of the State it happily happened that we educated to some extent the railroads, so that they came, most of them, to recognize the truth of the economic proposition which has been stated to you in various forms to-day, that the railroads and the waterways naturally and artificially are both potent agencies in transportation which naturally help each other. The opposition of the railroads, particularly of our greatest State railroad, dwindled, but, my friends, the railroads have become educated to another proposition and that was this: that not only would the improved canal assist them by helping to build up communities and by not competing with them in the carriage of freights which were the most remunerative, but that they could actually use them themselves to the extermination of individual transportation on the waterways and to aid them in carrying low rate freight that did not require fast delivery. In other words, they are educated up to the point of seeing that when the canals were improved there would be the opportunity to make them adjuncts of their own roads. They have done this upon the Great Lakes; they have done it to a large extent upon the ocean; they have done it to a large extent upon our interior rivers, the Tennessee and Ohio, and entirely upon the Mississippi. I am taking it from their point of view, their desire to control our canal system. In order to prevent this, the advocates of canal improvement had in view from the start the necessity of furnishing public canal terminals with proper accessories adapted to the cheap, quick delivery of freights to the canals, conveniently located for final delivery in the communities which might be the destinations. We did not say anything to the railroads about it, however. We said nothing until the time came, when the improvement of the canals was assured. The construction of canal terminals was a blow to the control of the canals by the railroads, which I have not the slightest doubt developed an opposition to the bill, much more active, much more effectual than that encountered in the case of the canal improvement bill from the railroads. I wish to say here that there is more to be done, if we are not to be put in the position of having wasted the State's money. There must be legislation in the State controlling interchange of traffic between the railroads and the canals, placing upon an equitable basis not only the receipt and delivery of freights for interchange, but freight tariffs. The railroads, my friends, have done a great deal

to kill independent water transportation by raising rates on short hauls upon delivery from the water to an extent that would make the water and short haul by rail, freight, exceed that of carriage by rail for the entire distance. We must have legislation and undoubtedly in the resolution which will be presented to you that idea will be suggested and it should be carried out.

There is another,—this is supplementary to the terminal idea,—there is another direction in which the railroads have endeavored to absorb water transportation and that is, by the ownership or control of the vehicles of water transportation. I am not going to stop to give you illustrations, but I know some of you and I think you can take it as truthful as coming from my lips (if you are not willing to accept it, you can verify it by investigation) that the railroads by the ownership, control and evasion of the law in some States and particularly of the law of the State of New York through subsidiary corporations have absorbed certain classes of freight upon the waterways in different parts of the Union and, as an illustration, upon the Great Lakes they have absolutely monopolized the package freight traffic. Legislation to adjust that, to put into effect what is the law of this State absolutely to-day will be needed. Then again they have done one other thing, which the construction of terminals, of public terminals, will remedy to a great extent; they have absorbed the available buildings and practical waterfrontages at all important points of destination for water carriage from Duluth and Chicago to Buffalo and are endeavoring to do it now to the extent they have done already in New York City. Given all the waterways you please, free as the air of heaven, with a capacity unlimited for cheap carriage of freights and with your frontage for the receipt and delivery under the control of railroad corporations, you might as well turn the waterways over to those corporations.

I have done with that subject except to say one thing: in this country we have been rather lax in such matters until within comparatively few years, but our eyes have been opened. You are going to have a canal here from Lake Ontario to Carthage in spite of the great lift. Take time by the forelock and look out for the means of utilizing your canal at the Lake Ontario end; see that you save to yourselves all the facilities, public facilities for shipment and receipt that the entire trade to be expected upon that canal, from that canal and the trade going to it, will need; and the sooner you start, the better. We in Buffalo found out this situation a very few years ago and we have been struggling to keep our heads above water. Our frontage is almost entirely controlled by railroads. Do not understand from what I have said that I am an enemy of the railroads. I am not, not at all; they are just as important factors in transportation and the prosperity of the country as the waterways are, but their functions are different. What I am urging is that they shall be kept within proper lines in the performance of their duties to the public and we will help them all we can to do that. They will be able to return as big a dividend to the stockholders as possible, doing justice to the community in their freight rates.

Now as to conservation, I am not going to talk about Adirondack reserves. I feel like talking a great deal about them because I know a very little, and that is the state of mind when one is generally most talkative. I know enough about them, however, that not only you people but people in the northern and northeastern part of the State are deeply interested in conservation for power purposes. I also have some enthusiasm in the direction of helping nature out. Nature does not always regulate things as she ought to. We were not consulted when the cosmos was projected, but we can help nature out and we can save a large portion of the surplus water for various purposes,—we can save it and that is what conservation means,—for the production of energy, mechanical and electrical; we can save it for the necessary purposes of life and the supply of the different municipalities, towns, villages and cities, and we can save it for them in a pure state by proper legislation. Conservation is an indefinite term. It is so indefinite that when the question of giving to the Pittsburgh Company, I call it the St. Lawrence Power Company, the right to tap the Long Sault Rapids, including the south and north channels, for power purposes, and the improvement of navigation—and it would be a great improvement on the St. Lawrence—at a hearing, we had quite a number of them,

but at a hearing in Toronto an officer of the Canadian Government, who is an expert upon conservation, opposed the scheme. Now what was the proposition? A private enterprise, Government control. The corporation took the power and divided it between the two countries, put in a big lock, raised the level so as to wipe out the Long Sault Rapids, sending the water I think about nine miles, making slack water for large vessels, which, if followed, as it will be in time, by the damming of the other rapids above and below will make the entire river navigable for large lake vessels coming from the new Welland Canal, which will be twenty-one feet deep. It was a sort of first step. Now one Canadian officer opposed that scheme as utterly subversive of the idea of conservation. It shows the indefiniteness of the term. He failed to explain to our Commission what he meant by conservation, and we had the politeness not to ask him because it might have proved embarrassing to him to have attempted to answer it. Conservation evidently meant with him the letting things remain in statu quo, as nature put them, preservation. It does not mean any such thing; it means the utilization and adaptation to the uses which the resources of nature have furnished us with that are most beneficial to the community.

Now the only question remaining to be discussed is, how that shall be done. You have heard what has been said to-day, that it can be done in one of two ways, either by the paternal action of the State, taking possession, in the case of waterways, including the beds and riparian rights, and doling the power out to companies or utilizing it itself and doling the water out to the municipalities; or the other way is to assume the burden of storing the surplus waters and as a proper compensation for that upon delivery to private owners without interfering with their rights, in times of low water, to receive a reasonable return. You have heard the law discussed. I do not think the law has anything to do with it, because it is, just as Senator Ferris in part of his address said, a matter that is absolutely adjustable, no matter what the law is as to the ownership of the beds of the stream improved. It is a question of policy. I am not going to attempt to decide it for you, but I have the old-fashioned idea, I cannot get over it, I am perhaps too old to take well to some modern ideas, that one of the most dangerous things to any State, to its prosperity, to its independence, to its intelligence, to its civilization, is the discouragement of private enterprise. (Applause.) And certainly if a paternal method of conservation would tend to put us in the position of either good or bad children, I do not think we care to occupy that position, and therefore I naturally am opposed to paternalism — I do not want you to agree with me at all and I don't know that what conclusions I may come to will have any weight with you, but I am here to express my views and perhaps my feelings. I naturally come to the conclusion that a State should take care of the surplus water and be paid for it a reasonable amount which will make it an object to provide the surplus water at the proper time and to deliver those waters to private owners, that they may go on with their business unhampered. But now, my friends, right there, one other idea suggests itself. I am going to say that the difficulty which arises in adjusting this question does not have at its base the legal rights of the parties, because the State of New York, if we are to adopt the paternal principle, is wealthy enough to buy all these people out; it would be a disaster, but it could do it; it is a question of policy and the only difficulty there is in adjusting it arises in the drafting and passing of a bill which will protect the public and do justice to private owners and accomplish the objects of conservation of which we have spoken. It is over that that the difficulties have arisen in our Legislature, difficulties which remain unadjusted. With proper study, looked at in a fair and impartial way, there will be no difficulty whatever in preparing a bill that will meet all the exigencies of the case and the approval of the people, and by that I mean your approval right here. There is one thing more; I am not a ghost-seer; I do not conjure up spirits of the air and affright myself or others, but I do fear, and I think I have just cause to fear, that the moment the public, the State takes hold of this matter, the moment that it makes the running of power plants on the northern streams throughout the year continuously and without the aid of steam auxiliary possible, so that water-power becomes a real potent energy in manufactories, that there is danger of

that consolidation of interests which we have seen extending through every branch of business in this country. Therefore legislation must be so drawn as to prevent that. I wish to see you gentlemen adopt that idea and when you employ somebody to draft those provisions of the bill, don't you come to me, because I won't attempt it. It requires the best business ability and knowledge of the situation, as well as legal ability, to prepare a bill which will meet all the conditions. I am sorry that I speak extemporaneously because I have spoken at too great length, but if I have uttered anything to-night that helps you gentlemen in any way in these matters, I am more than repaid, and I think I will be entitled to be excused from having taken so much of your time. (Applause.)

WATER CONSERVATION.

PRESIDENT HILL: I think we all appreciate the fact that Mr. Clinton never speaks too long. (Applause.) We are now to have the pleasure of listening to the address on the subject, "How Shall the Greatest Benefit of the Conservation of Water-Power of the State be Obtained," by a distinguished engineer from Rochester, Mr. John C. Parker. I hope the delegates will all remain because we have a matter of business to attend to thereafter.

Mr. Parker said:

We have given so much attention in the last few years to the general questions of conservation of our natural resources, and to the ways and means of effecting the same, that we have perhaps lost sight of the corollary and equally important question as to what we are going to do with the conservation when we have got it.

Assuming that the only true way to conserve is to use—that there is no point in conservation merely for the sake of conserving, as the miser hoards his gold for the sheer joy of having it—we naturally direct our attention to how we are going to utilize the resources that we conserve.

The present notes concern themselves, therefore, not at all with the means of effecting conservation, but entirely with the means of distributing the products thereof, and confine themselves to the consideration of this distribution problem in connection with our conserved water-powers. This whole matter of conservation by the effort of State and nation recognizes a popular equity in the natural wealth of our country. The conservation effort is to be made for the benefit of the people at large, whether directly or indirectly; and, therefore, that disposition of the conserved resources which most widely, directly, and intimately brings the economies home to the individual will best conserve the fundamental theory of conservation by the body politic. This, then, we take to be the fundamental desideratum, that each citizen shall to the largest possible degree share the benefits of conservation.

At first blush it might seem that, through a rental or tax imposed on water-powers developed by the State or nation, part of the burden of Government might be carried from the shoulders of the taxpayer to these improved water-powers, and thereby the general public made to benefit. To such a plan there is one fundamental economic objection, an objection so weighty that it would rather point to the desirability of rendering the conserved water-power practically immune from direct contributions to the State, except to the extent of the usual property and other taxes paid by individuals and corporations. The objection is this, that any direct burden laid on such conserved powers will make it difficult for them to find their market in competition with the increasingly economical steam and gas producer plants. The water-power is inherently what the engineer knows as a constant load development; that is, a development which shows its maximum economic advantage when working twenty-four hours a day, 365 days in the year, while the power equipments developing power from coal are adapted to widely varying demands for power. With the habits of society formed as they are, with the greater popularity of the eight-hour day and of the Saturday half-holiday, with many businesses so organized that seasonal variations in their power demands occur, there will be at the best but a slight margin of economic advantage to the water-power

developments in competition with the more flexible coal-power development, so that a very slight tax on the former will narrow the market for hydraulic power sale disproportionately to the slight advance in cost. It is, therefore, the case that for the sake of keeping as large a market as possible available for the disposition of hydraulic energy, the popular equity therein must satisfy itself in a manner other than that of direct tax or rental, otherwise conservation itself will become impossible.

There surely is no conservation in developing a water-power that nobody needs, or that has initially to carry so heavy a tax burden that it cannot produce power cheaper than any other form of generation; so, therefore, our conservation must put hydraulically generated energy on a competitive basis with other forms. That will, on the other hand, be no true conservation which places on hydraulic developments a burden of taxation which prevents them from becoming commercially feasible in competition with the untaxed coal-power plant.

The very essence of conservation will be satisfied if we can find ready at hand and thoroughly organized an agency for "passing conservation round," to paraphrase a recent political slogan. This, we believe, already exists in the highly developed public service enterprises, which now cover every city, town, and village of appreciable size in the country. If it can be shown that the results of conservation may be disposed of through such enterprises with advantage to the people at large, it will certainly be the part of sanity to use them, rather than through the expensive process of duplication of effort to seek another and presumably less well organized agency for the distribution of the benefits.

Let us consider for the moment just what function is served by these quasi-public enterprises. In the first place, they may be regarded in a sense as an arm of the body politic, exercising delegated powers for and in the interest of the people at large, and realizing to the full the definition of the scientific socialist, since they operate under that theory which believes in a "better distribution, and subordinate thereto, a more economic production of wealth, subject to the control of the central democratic body."

The public service enterprise reaches every branch of life in its community, the homes, the industries, the churches, the schools, the places of amusement, the out-of-doors, and the indoors, the material, and the aesthetic sides of life. It works in the making of the clothes and the footwear, in the production of the food supplies, in the transportation problems of the individual and of the community as a whole. It serves the most elaborate mansion and the humblest cottage. There is practically no interest in the community which the public service enterprise does not or cannot serve, and this service is rendered in many of our States to-day, subject to a very close control by the ultimate beneficiaries through their public service commissions.

Two elements most perfectly serve to make these quasi-public enterprises efficient and equitable agents for the distribution of the benefits of conservation to all the people alike, without favor and without discrimination. The first is that "enlightened selfishness," which is "the highest form of altruism." The second is control by commissions entrusted with broad powers and composed of men of a splendid type, both as to ability and as to integrity.

Nowhere in modern industrialism is there to be found so full a realization of the twentieth century's ideals in enlightened selfishness as in the public service enterprises, encouraged or checked, as need may be, by one another through the agencies of the great national organizations, which are a source of inspiration to intelligent, broad-gauge, and almost altruistic management. These corporations built up in the last quarter century have come to learn through their own broadening experience, through the experience of one another and through the development of public sentiment, that they have a trust imposed upon them by the people who have given them their franchise, and that only by the most faithful execution of this trust can they most faithfully serve the other group to whom they owe an obligation, their stockholders. Self-interest dictates that absolute fairness and absence of discrimination shall govern the rendering of the most perfect type of service at the lowest price consistent with a fair return to the large number of people who have undertaken

as stockholders, the expense of developing these agencies for distribution of comfort and economic benefits. Under this philosophy, as an illustration, the Rochester company has had a member of its engineering staff studying minutely for the last three years the cost of production of service for each individual class of consumer, and as a result of his studies has already made one voluntary rate reduction, and has in contemplation still others. Selfishness dictates such a plan, since the margin of competitive advantage with the private plant is in a certain zone very narrow, and, therefore, to secure this zone of business two things must be done. The central station service must be pre-eminently good, and the margin of competitive difference must be increased. A few per cent. increase in this margin will make possible a vast increase in the volume of business done with the same overhead expense, and, therefore, will result in benefits to the customer and the stockholder alike. This is no whit different from the conditions in any other form of mercantile practice, whereunder a slight sacrifice of possible profit on the individual sales increases the total sales and the aggregate profit tremendously.

This enlightened selfishness is the great check that the people have on their public utility servants; but in addition to this, and as an alternative should it fail, we have the tribunal provided for us to insure that the benefits of our conserved resources shall be distributed most widely. Here in the Empire State we have done pioneer work in public service regulation, under broad laws and with commissions splendidly constituted. These commissions guard against exploitation of the public by the service corporations in any possible manner. Not one dollar's worth of securities may be issued by the public service corporations without the consent and approval of the commissions. There must be a real necessity for the expenditures, and they must be wisely carried out, and dollar for dollar the securities issued must be represented by actual money expended on the properties. Not only is stock inflation so guarded against, but the profits made by the concerns must be reasonable. Complaint may be lodged with the commissions, investigation conducted, and after fair and impartial hearing, readjustments of rates will be ordered to provide for the transaction of the business at a fair price to the consumer, and at not more than a fair return to the owners. These commissions can and do grant hearing to anybody and everybody without favor, not only concerning the equity of power costs, but also in regard to a matter of much more importance to the user, namely, the quality of service.

But one remote possibility militates against the satisfactory operation of these public service commissions, and that is a lessening in the standard of the personnel. That this should happen is to-day inconceivable; but should it happen, the public is certainly assured that, with the distribution of our conserved resources through public service corporations, the deterioration of our regulation commissions could not work of much hardship to the people as under any other form of distribution, especially were the latter to take the form of a publicly owned distribution, where the regulating body would become essentially, if not nominally, one with the distributing organization. Certainly if the people could not have faith in a commission appointed by their own elective chief executive, and in the wisdom of the appointments, not only would it be generally true that the whole structure of democratic institutions would become untrustworthy, but in the specific case it is certainly true that they could not trust to a similar body the functions of construction, management, merchandising, regulation, all put into one or essentially one set of hands. Surely under such a scheme the public would fare much less well than to-day, when commissions freed from the detailed burden of executive management act as a board of consulting engineers and arbiters for the people of the State, unhampered either by the distraction of management, or by sentimental predisposition in favor of the product of their own creative energy.

Contrasting now the benefits of distribution of our conserved resources through our existing public utilities, we note three large economic advantages as against any other form of distribution; these three in addition to the formerly suggested ability of the public service corporation to reach all classes in the community, and the fact that it obviates the creation of a new agency, with the attendant cost of duplication.

The foremost *raison d'être* for the public service corporation lies in what the engineer knows as the diversity factor. Let us consider eight factories operating for eight hours a day, each taking a maximum demand of 150 horsepower for one hour, and of 100 horsepower for the remaining seven hours. Assume that factory A takes its biggest demand in the first hour of the day; factory B in the second hour of the day; factory C in the third hour of the day, and so on. We would then have in this group of factories eight times 150 horsepower of demand, or 1,200 horsepower, served from an electrical distribution line, the maximum demand on which at any one time would be 700 horsepower from seven of the factories, and 150 horsepower from the remaining one, making it possible to serve 1,200 horsepower of aggregate demand with only 850 horsepower of equipment. This illustration is, of course, academic; but the principle illustrated is far from academic, since in the nature of many businesses and non-industrial interests of life in any community, the biggest demands on the system never conspire, but are always diversified very largely as indicated in the illustration.

As indicating the practical extent of diversity factor, we note from a paper recently presented by Mr. H. B. Gear the following data obtained from exhaustive tests in the City of Chicago. The diversity factor for residence lighting was found to be 6.2; for commercial lighting, 2.3; for scattered motor loads, 2.53; and for the larger power and lighting customers, that is, for loads from 133 to 666 horsepower, 1.44; the combined diversity factor for systems handling all these kinds of services ranging from 2.5 to 3.5. This means that a 1,000-horsepower plant could supply an aggregate demand of 2,500 to 3,500 horsepower.

Now it so happens that in many cases our developed water-powers are being used for huge single industries producing but one commodity. In the case of such an industry no benefit is derived from the diversity factor, excepting among the relatively few departments of the industrial plant. Surely in the case of the public service distribution we have, in addition to the conservation of the original power, a conservation of utilization. In other words, we have multiplied the effective capacity of the hydro-electric plant above its theoretical maximum by the amount of this diversity factor.

At this point I should pause to say that the recommended distribution of the results of conservation through the public utility enterprises may or may not in any special instance apply to powers developed for and devoted to manufacturing enterprises of a private character, since, unless such powers can be thrown into a common lot and then resupplied to the individual industries concerned at a sufficiently reduced price, or with sufficiently better service to warrant making such an arrangement, no genuine conservation would be effected thereby. If, on the other hand, the benefits of diversity factor and the other elements justifying a public service distribution would be advantageous to such owner of industrial water-powers, intelligent selfishness would indicate such an arrangement.

Reverting to the diversity in the character of use, and confining our attention to the industrial applications alone, we observe one additional factor in the full conservation of water-powers through public utility distribution, as distinguished from the localized use of these powers by one specialized industry or group of industries; namely, that the benefits of the cheaper and better distributed power accrue to a very large number of people in the immediate community, and are distributed much more broadly than in the immediate zone of development. For example, an hydraulic development transmits its power to a community where the industries are varied, and lessens this element in the cost of production among half a dozen manufacturers of clothing. These people will be enabled to produce their clothing just so much the cheaper, and will be forced through the ordinary mercantile process of competition to reduce the selling cost in a like amount, whereby the consumers over the State, and perhaps over the nation and beyond, will be enabled to participate in the benefits of the lessened cost of production. The same will be true of boots, and vehicles, and furniture, and the thousand and one articles of daily consumption into the manufacture of which power enters largely. These factories will be enabled to prosper more and more, and to give employment to more men, who

in their turn will benefit through their additional prosperity the farmers who supply the commodities of life to the community, and so on.

It cannot be thought that in any sense conservation ceases with the production of the maximum energy output from a given watershed. Conservation broadly understood must mean the maximum of utility, the maximum of useful service with satisfaction from a given natural resource. If we can increase the energy output from 5,000 horsepower with an uncorrelated and unconserved group of natural resources to 7,500 horsepower with adequate storage and other works, we have truly made a 50 per cent. increase in the usefulness of that particular natural resource. But if, in addition, we have a diversity factor of three, this 7,500 horsepower will serve 22,500 horsepower of maximum demand, so that in this one factor we have further conserved the already augmented water-power at least two-fold, and have multiplied the initial power four and a half times. We may, however, go still further. If in our industries we find a wastage of energy, as often happens, and can eliminate this, we will have still further conserved our energies. Many large plants with mechanical distribution of energy throughout them, will show energy loss running all the way from 50 to 80 per cent., which might be reduced to 10 or 20 per cent. by proper engineering in conjunction with the electrical distribution of the energy throughout the factory. Lately the public service corporations of the country have introduced new illuminants which have served to cut down the energy consumption by nearly 70 per cent.; and by the proper adaptation of illuminating engineering principles, have made still further and marked economies in the utilization of energy at that period of the day when it is the greatest; namely, the peak hour. Assuming, as we believe can be proved to be the case, that adequate utilization will cut out the wastage of at least one-half the energy in those communities where work has not as yet been prosecuted, we would make our 22,500 diversified horsepowers do the work that to-day is being done by 45,000 uneconomical horsepowers, an improvement of another 100 per cent. over the diversified but uneconomically used 22,500 horsepowers previously discussed. What we have done here in this process of cumulative conservations has been to increase the accrued development of the 5,000 horsepower to an effective utilization of 45,000 horsepowers' worth of benefit. The initial 7,500 horsepower of conserved energy at the hydro-electric plant has increased six-fold through the two processes of diversity factor and efficiency in application. There is no method of weighing the economic benefits handed round through energy stored in the finished product.

The public service corporations to-day are a very efficient agency for promoting the economic utilization of the benefits of our conserved water-powers, since in the effort to secure business and to make their service of the greatest advantage to their consumers, many of them maintain departments of engineers to study how the power requirements in the industries served may be reduced to the minimum. These men concern themselves not only with the questions of electrical distribution and motor drive, but also with the problems connected with the driven apparatus, so that remarkable economies are effected by these men with their broad knowledge of the various phases of engineering science.

These economies of utilization, which are possible under a scheme of public service distribution, are often economically impossible with the local utilization of a water-power by one industry. If this one industry is not utilizing all of the power available, there is no motive for economy until the time when uneconomical use means deficiency in capacity. If, on the other hand, the individualized use of a water-power requires more power than that naturally available, a steam reserve has to be carried, and again the economic advantages of more efficient utilization may be, and as a matter of practical experience, in general are quite remote, since with a given power-producing capacity installed, the benefits of efficient utilization cannot be realized on. A man cannot easily sell a piece of an hydraulic plant or of a steam reserve plant, so that the investment is fixed and irrevocable. Even operating economies in the use of a steam reserve plant are of but little importance in such an individualized case, since whatever saving is made occurs at the most efficient part of the plant's operation, leaving the worst initial wastes still to be carried. If, on the

other hand, a public utility company can show one customer where he can save 100 horsepower of demand, and another customer where he can save 10 horsepower, the company is put into a position where it can sell that additional 100 or 10 horsepower of demand in large or small blocks to various new or growing consumers, without additional investment or operating expense. The public utility companies so formulate their power rates as to be an inducement to the consumers to co-operate in these economies.

Though foreign to the economy of utilization, I should like at this point to indicate two economies of operation that are possible to the public service enterprises, but which are seldom possible under any other scheme of utilization of our conserved water-powers. These have reference to the necessity for carrying a certain amount of steam capacity or pondage in connection with hydraulic development; and to the necessity for carrying spare units to replace any regular working units that may be out of commission at any time for repairs, et cetera.

First, with reference to pondage and steam reserve, we note that the public utility company is enabled to utilize the conserved water-powers much more flexibly than can any individual industry which might rent or purchase them. As previously stated, the water-powers of a country, and specifically the water-powers of our own State, are far from adequate to handle all of the power demand at present existing, and must therefore be backed up by steam energy developed from fuel. The public utility enterprise is in a position to use the water-power transmitted from a distance to carry the long steady twenty-four-hour load for which hydraulic generation peculiarly well adapts itself, thereby using water throughout the night hours, during which but a restricted class of individual enterprises could utilize it; and, at the same time, carrying the short peak load by steam generation, with the attendant advantage of a relatively cheap investment for the least extensively utilized portion of the plant. This smoothing out of the load that the hydraulic capacity has to carry results in the utilization of practically every drop of water available, with a minimum of investment and a maximum of economy at all times.

In any power development times will occur when individual generating units must be shut down to permit the necessary inspection and repairs. To enable this withdrawal of units from service, substitute generating units must be maintained to act as "spares." In a small plant, it is economically impossible to subdivide the development into more than two or three units without making unjustifiable sacrifices in first cost and efficiency. The result is that the spare unit must represent a large fraction of the total generating capacity installed. On the other hand, a large installation of 10 to 20 large, efficient, and relatively inexpensive units will be assured of as great continuity of operation with one or two spare units representing, say, 10 per cent. of the total plant capacity, as would a smaller plant whose spare units might represent 50 per cent. of the total installation. Moreover, the public utility enterprise utilizing the conserved hydraulic power for its base long-hour load, and supplementing it with steam for the peak short-hour business, can at any time throw its steam generation into the breach to allow for necessary repairs on one or more of the hydraulic units.

It may seem that these economic advantages in distribution of our conserved resources through the public utility enterprises at present existing are merely the result of the magnitude and of the nature of the business; and the question might naturally arise as to why the State, if it take any part in the development of its resources, should not go the whole way and distribute them, rather than using the present half-public half-private enterprises for this purpose.

It is the speaker's feeling that it is the legitimate function of Government to enter into those enterprises which require the power of the State for their consummation, among these being enterprises of such magnitude that private capital cannot undertake them, such as the present Barge Canal development; those which are a necessity to public health and well-being, such as our schools and sanitary systems; and those which require the use of the right of eminent domain inherent in the sovereign States, such as the formerly cited Barge Canal, and, by delegation, the railroads. The Barge Canal is perhaps as pertinent a

modern illustration of this exercise of State functions as can be found, serving as it does to build up the prosperity of the State through the encouragement of private enterprise. Practically all of the mills in Central and Western New York would be economically impossible were it not for the service of our waterways system, and yet the State has wisely limited its enterprise in the matter at that point where the private milling interests can advantageously serve industry and the people of the State.

This, we believe, should be the State's function in connection with the distribution of our conserved water-power. Without the sovereign power of the State, the powers on a given watershed cannot be developed as a congruous and efficient whole. On the other hand, it seems pretty obvious that the State need not get much further than the initial development. To duplicate the already existing enterprises would be the reverse of conservation, and it cannot be thought that there is any legitimate reason for the State to enter into competition with them, or to go into the merchandising business. In fact, there are grave reasons why this should not be done.

The whole prosperity of modern civilization has been built up on the inducement to private enterprise offered by the hope of honest gain. This is the stimulus that has developed the fiber of us all personally and industrially. Under a system of State management the speaker feels that the element of initiative would be withdrawn from the performance of most of the men engaged in the prosecution of such an enterprise as the distribution of energy.

It takes many years to build up a staff for the operation of such a work, and to develop a wise, far-reaching policy of management and technique; while under a system of public control, rotation in office would involve change in personnel long before the consummation of plans made at the beginning of an administration.

Most of us are familiar with the officialism that necessarily characterizes operation under civil service regulations, which are doubtless a necessity of democratic government with our humanity constituted as it is to-day and probably will be for thousands of years to come. Mere inefficiency or failure to sympathetically co-operate with the general scheme of things is not in the nature of civil service operation a valid excuse for removing even a very minor employee without a preliminary trial, in which, as Mayor Dunne of Chicago has expressed it, the chief and not the employee is placed on trial.

It cannot be thought that any governmental bureau would so aggressively place before the people the facilities of the service as do the present public utility enterprises. The reason is not hard to find, since under private management the subordinate employees are urged by the hope of promotion to make the value of their services felt by their immediate chiefs, and they in turn through the management and the directorate desire to make their services of value to the stockholders. In a State enterprise where each individual in the State is the ultimate owner of any enterprise undertaken, and where that specific one is only one of the many State enterprises in which the individual has a share, the relation of the ultimate stockholder is pretty remote, and his interest pretty feeble in the management, and so the employees have not the spur of intelligent self-interest to keep them keenly awake to the possibilities of the business in hand, unless, indeed, it be in a few cases that the hope of return to office may cause them to give much more thought to pleasing their immediate constituency than to the actual working of the enterprise. Blame cannot attach to public servants for such an attitude, since the constituency is more likely to insist on being personally pleased than on having the enterprise economically, efficiently and aggressively managed.

Against the operation of the distribution agencies by the body politic there is one other grave objection; namely, that in the making of plans and receiving bids and construction and inspection, a rigid inflexibility is demanded as insurance against favoritism or corruption, while in a private enterprise a large amount of individual discretion may be left with every man in the concern. For the former conditions the people pay heavily, since the growth in experience and special knowledge as the work progresses cannot often be made available on the work at any time in hand; and since in the relations between the engi-

neer and the contractor, expedients which may simplify, improve, or cheapen the work cannot readily be made available.

This inherent officialism in State management then points rather clearly to the distribution of our conserved resources through private agencies, amply safeguarded in the interest of the people, and subject to no burdens of taxation or rental other than those common to all the other industries of the State. The speaker believes that through such a scheme the most effective conservation will be secured, and the benefits thereof brought to the largest number of people, to each ultimately according to his ability to use, and with a burden on each only proportioned to the benefits to be derived. We believe that in this great work the law-making bodies will recognize the wisdom of utilizing the agencies already at hand, and that they will recognize that any disposition of our conserved resources must not be merely a good temporary bargain by the people of the State, but that it should be such a transaction as will in the long run give the greatest value to the greatest number of people from the fundamental wealth with which we have been endowed. (Applause.)

PRESIDENT HILL: We are very much obliged, Mr. Parker, for your very instructive and interesting paper. You have presented phases of economics which I think are worthy of consideration.

This closes the papers of the evening and you will observe we have not only completed the calendar for the day but have disposed of one or more papers that are on the calendar for to-morrow, one paper at least. We have done this that we might give possibly a little more time to the first speaker that we are to listen to to-morrow, Mr. Thompson, Secretary of the National Rivers and Harbors Congress, who comes here at much inconvenience to address us on a very interesting subject. I hope that we may have a large attendance, not only of the delegates of this Convention but of the citizens of this city, because he speaks as one having authority in that he has given perhaps as much attention, perhaps more consideration, to this great phase of water service than any man in the country. It was only after much urging, and after seeing him personally that he consented to come, and I hope we may have a large attendance at 2 o'clock because he can be here only a few hours and must return at once to Washington. There are other interesting papers to-morrow afternoon also. The hour is rather late and it is necessary for all who are to go on the automobile ride to be ready at 8:30 in the morning. That does not mean 9 o'clock, because the ride is so long and there is so much to be seen that it will be impossible to make the trip and return in time for the luncheon at 1 o'clock unless we start at the hour fixed, at 8:30 or very nearly that. A photographer will be in waiting for you to-morrow morning, who would like to get a snap shot before you enter the automobiles at the entrance of this building. I hope we may be ready to go in the morning.

MR. MURRAY (of Troy): At this morning's session Mr. McKinney, representing the Albany Chamber of Commerce, extended an invitation to this Association to meet at Albany next year. It seems strange to me, a Trojan, to favor anything coming from Albany. After fifteen years of rivalry Albany has seen new light and so has Troy. Instead of being opposed, we are working together, I think, finally. I take great pleasure as a Trojan in moving that the invitation be accepted.

MR. McKINNEY: Albany takes off its hat to the generous spirit displayed by Troy.

PRESIDENT HILL: We will bear this in mind, gentlemen. The invitation for the next annual Convention has been presented, and seconded by the City of Troy, to meet in the City of Albany next year and you will have that matter under consideration until we meet to-morrow and decide the question.

Upon motion of Senator Cobb adjournment was taken until 8:30 A. M. or 2 P. M., according as the weather was favorable or unfavorable for the proposed automobile trip to Carthage and the St. Regis paper mills.

September 20, 1912.

AFTERNOON SESSION.

Meeting called to order at 2:45 P. M.

MR. STRATTON: As one of the matters relating to the business of this Convention I desire to offer the following resolution:

RESOLVED, That the thanks of the visiting members of the New York State Waterways Association are due and are hereby extended to the citizens of Watertown for their kind reception, their courteous treatment and their bounteous hospitality so graciously extended on this our visit to the City of Watertown September 19 and 20, 1912.

A DELEGATE: I move the adoption of the resolution.

PRESIDENT HILL: All in favor say aye; contrary minded, no. So ordered and adopted.

Gentlemen of the Convention, pending the disposition of important matters before the committees, in order that the members of the Committees may hear Mr. Thompson, we will hear the paper which the Hon. William J. Roche of Troy prepared to be presented to this Convention. Mr. Hutton has kindly consented to read it. So I will present Mr. Hutton of Troy.

NEEDS OF LEGISLATION.

MR. HUTTON: Mr. President and Gentlemen of the Convention: Mr. William J. Roche, who prepared this paper, entitled "**The Needs of Legislation as to the Relations Between Rail and Water Carriers**," is engaged in the Supreme Court in a very important case, and was unable to attend this Convention.

Mr. Hutton read:

The Panama Canal Act and the discussions attendant upon its passage through Congress, have again sharply drawn attention to the relations between carriers by rail and carriers by water, and to the necessity of adopting and enforcing definite public policies concerning the two classes of carriers.

That the interest of the people has been awakened to the importance of waterway transportation, has been demonstrated by the numerous conventions, State, Sectional and National, which have been held in recent years, and the large appropriations which have been made for utilizing and developing the natural facilities for trade and inter-communication. The people of the State of New York, with characteristic foresight and liberality, have voted to expend \$127,800,000 for the purpose of enlarging the canals, whose original construction contributed so potentially to the primacy of this State and of establishing adequate terminal facilities for canal commerce. The Federal Government has directed the improvement of the upper Hudson, and projects for the further development of the harbor of New York and the creation of additional facilities in proximity to the metropolis engage the consideration of local, State and national authorities. The River and Harbor bills passed within a few years have carried appropriations of upwards of \$100,000,000 and these are forerunners of large sums to follow until an extensive system of waterways is perfected. Everywhere, cities are bestirring themselves to the advantages of controlling their waterfront, and of supplying facilities for shipment by water lines. The time is seasonable, therefore, in which to look over the field and ascertain whether these expenditures of public money and energy are so safeguarded that they will yield results commensurate with the expectations and sacrifices of the people.

The questions have been asked: Should railroad corporations be allowed to operate boat lines? Are the State and the nation engaged in developing

waterways only to have these waterways become mere adjuncts to the railroad systems? In view of the large appropriations which are being made, are we rearing and fattening waterway lambs for railroad consumption? What statutory measures are required to ensure fair treatment of the water carrier by the rail carrier and the efficiency of the public waters as agencies of commerce?

The history of transportation both in Europe and in this country tells us of the dangers of permitting the unrestricted use of waterways by railroad corporations. The past points a warning finger to the future. Railroads acquired water lines, not to put them to use for transportation purposes, but to put them out of use, and thus eliminate competition and establish monopoly. They laid hands on the choicest sites in harbors and along lakes and rivers for freight stations. They refused to issue through bills of lading when part of the route was over a water line. The cut rates on the boat lines which they controlled until their competitors sold out or were starved out. They declined to make joint rates and to prorate with water carriers. Physical connections between the railroad stations and docks where vessels received and discharged their cargoes were denied. Discriminations of various kinds, including rebating, were practiced. The result was a tremendous decline and, in some cases, the extinction of water-borne commerce. The Board of United States Engineers for Rivers and Harbors, expressing their views as to the cause of the decline of water transportation, say:

"The prevalent cause leading to the decline of water transportation is without doubt the railroad. The railroad corporation of large resources and facilities for its business successfully competes with navigation companies or individual boats with limited resources and facilities; and, competing, naturally does not enter into such relations with its competitor as to increase the business of the latter, declining to prorate, or to recognize through bills of lading. Moreover, railroads have established rival boat or barge lines through which competition has been discouraged."

The New York Barge Canal Terminal Commission state in their report of 1911:

"The attitude toward the water carriers that has long obtained by the railroads has been one of pronounced hostility. Through transportation, that is to say, the carriage of freight originating outside of the State, has almost reached the vanishing point."

Mr. Allen stated at the 1909 Convention of the Rivers and Harbors Congress in referring to the Mississippi River:

"Again the railroads have paralleled the river, have reduced the rates of carriage until it is impossible for boats to make a reasonable interest on their investment, and when they have gone out of business their rates have been restored or increased and railroads thus have monopolized traffic."

At the same Convention, United States Senator Burton of Ohio said, referring to the advantages enjoyed by railroads:

"Then there is a second class of advantages that are arbitrary, due to their lowering of rates to drive waterways out of business. The best illustration with reference to that which I know, is a case where a barge line on the Mississippi was carrying freight at 25c. a hundred very profitably. The railways put down the rate to 10c. a hundred until the barge line was driven out of business; then the railroads put up the rate to 50c. a hundred, where it has remained ever since. Now, that ought not to be allowed; legislation ought to prevent anything of that kind. * * * Gentlemen, it is hardly reasonable to spend \$3,000,000 on a waterway that will not be useful, except to make a million-dollar railroad behave itself. There ought to be, in the armory of the law, something more potent, more ready than that. * * * What does the fact that railroads buy out competing water lines prove? It proves that they can afford to buy in order to get rid of a competitor. Why? Because that method of transportation is cheaper than their method of transportation."

At the Convention of the National Rivers and Harbors Congress in 1911, Mr. Wilkinson stated:

"On the introduction of the railways, Germany passed through an experience corresponding to ours. For a long period the waterways lost their importance as a factor in the development of the commerce of the country.

The Germans thought, as we have thought, that when the railways came in they could afford to neglect their waterways. In the meantime the railways secured control of the canals, harbors, and waterfronts, and either closed up water-borne traffic or raised the tariff rates for water carriage to force transportation by rail until the cost of raw materials became so prohibitive that factories were forced to close down, throwing people out of employment, and great distress prevailed."

It is well known that in England, which in the earlier days was intersected by many canals, inland water transportation is in a backward condition, because the railroads acquired control of the waterways, and that acts of Parliament intended to change the situation, have had but little effect because they came too late.

Commissioner Herbert Knox Smith says, regarding the attitude of the railroads towards water carriers:

"Probably the greatest single deterrent to water-terminal advance is the present adverse attitude of rail lines toward independent water traffic, in their exclusive control of frontage, in refusal or neglect to co-ordinate with general water traffic, and in refusal or prorate generally with water lines in through movement of traffic. Until this underlying relation of rail to water systems is adjusted on some common sense basis of harmony, there is little hope of great advance in water-terminal conditions."

United States Senator Bristow declared with reference to the Pacific Mail lines that they have been "commercial pirates" run wholly in the interest of the transcontinental railroads for the purpose of using the Panama Canal in private commerce and to destroy any steamship lines that wished to establish legitimate competition with these railroads by the Isthmian route; that an absolute prohibition of the use of the canal to steamship lines, the stock of which or any part of which is owned or controlled directly or indirectly, by railroads doing a transcontinental business is necessary, and that if such a provision should not be incorporated in the bill, the canal would be of little benefit to the American people and American commerce.

The Directors of the San Francisco Chamber of Commerce pithily said:

"A railroad cannot honestly compete with itself, whether by means of box cars or ships."

The testimony on the subject is abundant and comes from authentic sources both foreign and domestic. In this country, complaints of the practices of railroad corporations in their efforts to eliminate waterway competition, have been numerous and their extent continental. There can be no better guide to the future than the lessons taught by the past, particularly when the teaching is general and prolonged. Coincident, therefore, with the commencement of a new era of waterway development and with the expenditure of vast sums of public money for that purpose, men's minds have naturally turned to the discussion and formulation of policies that would result in securing an adequate return for the moneys thus expended, that would prevent a monopoly of transportation, that would insure the advantages of waterway competition in the movement of the products of the field, the forest, the mine and the factory and that would aid in the upbuilding of the industries of the nation.

A review of the methods intended to accomplish these ends is pertinent.

In his message to Congress in December, 1910, President Taft said, concerning the Panama Canal:

"I cannot close the reference to the canal without suggesting as a wise amendment to the Interstate Commerce Law, a provision prohibiting interstate commerce railroads from owning or controlling ships engaged in the trade through the Panama Canal. I believe such a provision may be needed to save to the people of the United States the conflicts of the competition in trade between the eastern and western seabords which this canal was constructed to secure."

Commissioner Prouty of the Interstate Commerce Commission declares:

"If the waterways of this country are to be of substantial benefit in the way of reducing rates of transportation, it is absolutely essential that rail carriers be prohibited from owning or controlling, directly or indirectly, competing water carriers."

Dr. Crowel, Associate Editor of the Wall Street Journal, writes:

"Investors are not going to put capital into a waterway enterprise from which railway competition can drive the investor in the course of a few years. Hence, protection by law must be given against unfair competition."

The New York Barge Canal Terminal Commission state:

"Upon the Continent of Europe it should be said the railroads are either owned by the Governments outright, or they are in part so owned. The supervision of the railroads and the regulations imposed upon them by the general Government are designed to and have the effect of permitting the freest possible development of the waterways and this largely accounts for the splendid progress made in waterway and harbor improvements and in the growing commerce so notable everywhere."

The National Waterways Commission made an exhaustive investigation of questions relating to water transportation both in this country and in Europe, and in their report recently presented to Congress, they say:

"The lack of adequate regulations makes it possible for the railways to effectually control or to crush out water competition through their ownership and control of boat lines. It is a well-known fact that the trunk-line railways, through their control over terminals at Buffalo and their ownership of steamship companies on the Great Lakes, have been able to dominate the lake and rail package freight business between New York and Chicago and also to a considerable extent the grain traffic. On the business thus controlled the water rates have risen, while on the coal, iron and grain traffic not controlled by the railways the water rates have steadily declined. In like manner the New York, New Haven & Hartford Railroad practically dominates water transportation on Long Island Sound by reason of its ownership of the New England Navigation Company. Independent companies have been unable to compete successfully, owing to the advantage which their railway-owned competitor enjoys. The steamship companies plying between the North Atlantic and Southern ports in the coastwise trade are likewise working in harmony with the connecting and competing railways by which they are owned or controlled, so that little, if any, active competition exists. Also on some rivers the railways have acquired control of packet lines.

"While this rapidly increasing control of railways over water lines tends to bring about that harmony and co-operation between them which is necessary for the development of transfer traffic, it also has possibilities of harmful results which require regulation. Where the railways grant prorating arrangements to boat lines which they own or control, while denying the same privilege to competing independent lines, the latter are practically precluded from securing any transfer traffic, while on the local or port-to-port business they must meet the competition of the railway-owned boat lines, which are at liberty on this business to cut rates to any extent they choose. Under such conditions it is very difficult for independent lines to succeed, and the cases are numerous where they have been forced to retire from the field. * * *

"Sedulous care is taken by most European countries for the protection of inland water-borne traffic against railroad competition. In France this is accomplished by enforcing a differential of 20 per cent. in favor of the waterways as against railways, with the evident intention of maintaining both methods of transportation. In a majority of the other countries in which water transportation has reached its highest development, the railways wholly or partially belong to the State. This is true in Germany, Austria, Hungary, Holland and Belgium. The well-established policy in these countries is to secure co-operation between railways and waterways by official control of railway rates with a view to maintaining profitable traffic on the latter."

In an appendix to the report, I find:

"It may prove cheaper for a railway to control water carriers than to compete against them, especially when the natural advantages of the former are great. Thus it was the policy of railroads at one time to purchase outright or secure a controlling interest in competing canal companies. The common method in the United States now is for the railways to own or control boat lines. Where they also own the terminal facilities at a port it is a very easy matter to prevent serious competition from independents. The view was once

held that the waterways were free highways on which competition would always exist, but what has transpired in the United States during the last decade indicates that even water transportation may be monopolized or so effectively controlled that it is hazardous for independent boat lines to enter the field."

"The experience of all countries has been that as long as the railways were not subject to strict control, they have succeeded in crushing out or controlling water competition. The regulation of railway activities for the protection of water carriers has, accordingly, been found necessary in all countries before the normal development of water transportation could take place."

Guided by such experiences and recommendations, and to make certain that one of the great waterways of the world, connecting the two principal ocean highways, would be an efficient medium of commerce, free from the control of the other great force in the transportation world, Congress inserted the following provision in the Panama Canal Act, which was approved August 24, 1912, to wit:

"From and after the first day of July, nineteen hundred and fourteen, it shall be unlawful for any railroad company or other common carrier subject to the act to regulate commerce to own, lease, operate, control, or have any interest whatsoever (by stock ownership or otherwise, either directly, indirectly, through any holding company, or by stockholders or directors in common, or in any other manner) in any common carrier by water operated through the Panama Canal or elsewhere with which said railroad or other carrier aforesaid does or may compete for traffic or any vessel carrying freight or passengers upon said water route or elsewhere with which said railroad or other carrier aforesaid does or may compete for traffic; and in case of the violation of this provision each day in which such violation continues shall be deemed a separate offense."

The act also confers upon the Interstate Commerce Commission jurisdiction to determine questions of fact as to the competition or possibility of competition, after full hearing, on the application of any railroad company or other carrier and that application may be filed for the purpose of determining whether any existing service is in violation of the section and for an order permitting the continuance of any vessels or barges already in operation. It is also provided that if the Commission shall be of the opinion that any such existing specified service by water other than through the Panama Canal is being operated in the interest of the public and is of advantage to the convenience and commerce of the people and that such extension will neither exclude, prevent nor reduce competition on the route by water under consideration, the Commission may, by order, extend the time during which such service by water may continue to be operated beyond July 1, 1914, and in case of such extension the rates, schedules and practices of such water-carrier shall be filed with the Commission and shall be subject to the Act to regulate commerce.

Two things stand out prominently in this act: (1) A prohibition after July 1, 1914, against any railroad company holding any interest in a common carrier by water operated through the Panama Canal or elsewhere, with which the railroad does or may compete or having any interest in any vessel carrying freight or passengers upon a water route with which such competition does or may exist; and (2) that as to any such existing service by water, the Commission may, upon certain things being established, extend the time during which such service by water may continue to be operated beyond July 1, 1914.

Many associations, including the Merchants' Association of New York and the San Francisco Chamber of Commerce, have approved the principle of this law.

It would seem that the prohibition is not against railroad control or interest in common carriers by water generally, but that it is limited to routes and vessels with which the railroad does or may compete for traffic. If this be the true construction, the statute is defective. Railroad corporations should no more be permitted to operate water lines with which the railroads do not compete, than where they do compete. The establishment of such lines in any case, is a departure from the primary purpose for which railroad corporations are organized, to wit: the business of transportation on land; and the practice would act as a deterrent to the establishment of such lines by others. But,

even if the prohibition be not all-embracing, it is a decided step forward and constitutes a statutory promulgation of a new and far-reaching public policy. Of course this statute relates only to **interstate** commerce. It does not affect the commerce which originates and terminates within the State itself, and which in a State like New York is vast in extent. Many persons are not aware of the fact that the bulk of the tonnage carried upon the Erie and Champlain Canals is intrastate. There is also the commerce of very large proportions on the Hudson River between the numerous cities along its banks, between New York and Troy. The same is true in many other States. This makes it of the highest importance that State Legislatures shall promptly proceed to declare policies and enact legislation which shall be in substantial harmony with this act of Congress; otherwise an embarrassing divergency of policies and practices will ensue.

The Transportation Corporations Law of this State provides for the formation of navigation corporations which may operate vessels upon the seas, sounds, lakes, rivers, canals or other waters. That law contains this provision:

"No railroad corporation shall have, own or hold any stock in any such corporation" — meaning in any navigation corporation.

Daniel O'Connell, the Irish lawyer and orator, boasted that he could drive a coach and four through an act of Parliament. Similarly, it will be readily seen that this statute can be made utterly ineffective. The railroad corporation need not hold the stock of the navigation company, in its own name, if it desired to control the latter. Many devices could be resorted to, in order to obtain such control. There is the familiar medium of the holding company. Officers and employees of the railroad corporation could be used to take stock in their individual names, which would be voted as the railroad corporation directed. If there was an issue of bonds, a portion of these could be acquired; and we know that a corporation can be controlled not only through registered stock, but also by the hand that is placed upon its financial pulse. For the purpose therefore, of making the statute effective and of keeping the waterways free from railroad control, I prepared an amendment to the existing law, and had the same introduced in the sessions of the Legislature in 1911 and 1912; but there was no hearing on the bill. In my judgment the statute should be amended, so as to provide and declare that no railroad corporation and no joint stock association which is engaged in carrying on what is known as an express business, shall, either directly or indirectly, or through the medium of its officers, directors or employees, or of a holding company or otherwise, purchase, own, hold or vote any stock issued by any corporation heretofore or hereafter formed under the provisions of article 3 of the Transportation Corporations Law, or any bonds or other evidences of indebtedness, issued by any corporation formed or hereafter formed under the provisions of said law, or shall, either directly or indirectly, or by or through any of the persons or means above stated, or otherwise, lease, control or operate any boats, barges or other vessels navigating upon any of the public waters in this State, except such tugboats, ferry boats, barges, floats and lighters as may be in use by such railroad corporation or joint stock association in making ferry connections with railroad termini, or in transferring railroad cars or freight between railroad termini or between such termini and any vessels, piers, wharves or docks in the harbor where operated or within the lighterage limits of the City of New York.

Congress has proceeded step by step to regulate railroad traffic and extend the powers of the Interstate Commerce Commission. In 1906 authority was given to the Commission to establish through routes and joint rates as the maximum to be charged, and to prescribe the division of such rates and the terms and conditions under which through routes should be operated, and it was declared that "this provision shall apply when one of the connecting carriers is a water-line." In 1910, Congress undertook to check an abuse by providing that whenever a rail carrier shall, in competition with a water route, reduce the rates on the carriage of freight to or from competitive points, it should not be permitted to increase such rates, unless after hearing by the Interstate Commerce Commission it should be found that the proposed increase arose upon changed conditions other than the elimination of water competition.

It was seen, however that the foregoing and like provisions would not, of

themselves, sufficiently stimulate and protect water-borne traffic. Other things had to be enacted to bring about that co-ordination of water and rail lines which is essential to the development of cheap, rapid and adequate transportation. Congress undertook to provide for some of these in the Panama Canal Act as follows:

When property may be or is transported from point to point in the United States by rail and water, through the Panama Canal or otherwise, (but not entirely within the limits of a single State) the Interstate Commerce Commission is given jurisdiction of such transportation and of the carriers, both by rail and water, (a) to establish physical connection between the lines of the rail carrier and the dock of the water carrier by directing the rail carrier to make suitable connection between the two or by directing both to co-operate in this respect, wherever such connection is reasonably practicable and the amount of business to be handled is sufficient to justify the outlay; (b) to establish through routes and maximum joint rates between and over such rail and water lines and to determine the terms and conditions under which such lines shall be operated in the handling of the traffic; (c) to establish maximum proportional rates by rail to and from the ports to which the traffic is brought or from which it is taken by the water carrier and to determine to what traffic and in connection with what vessels and upon what terms and conditions such rates shall apply.

These are further distinct steps intended to encourage and protect transportation by water routes. Heretofore the relations, or rather the absence of relations and co-operation between the rail and water carriers have greatly tended to restrict the selection by the shipper of the route upon which he desired to send his goods and to force him to bill them by an all-rail route. They operated to retard the rapid movement of merchandise and generally to inconvenience merchants and manufacturers. The policy that prevailed was the reverse of that which was in force as to railroad lines.

Under State law, railroad corporations are required to make physical connections with the railroads of other corporations and to afford to competing roads equal terms of accommodation and privileges in the transportation of cars, passengers, baggage and freight, and equal facilities in the interchange and use of cars; and the Public Service Commission has power to establish through routes and joint rates for the transportation of property upon railroads and to declare the portion of such rates to which each common carrier shall be entitled and the manner in which the same shall be paid and secured. All this is demanded in the public interest. The law should require as much as this from the railroads, which derive their charter from the sovereign power, in favor of the waterways built and maintained by the public moneys, and of the shippers who desire to make use of these waterways.

Provisions of the kind noted, as well as one requiring the issuing of through bills of lading of merchandise shipped over both rail and water lines, should be placed in the Public Service Commissions Law of this State. At the present time the Public Service Commissions have no jurisdiction or supervision over common carriers by water. This was decided by the Commission of the Second District in the case of Murray's Line against the Delaware & Hudson Company. It was also decided in that case, that the fact that a railroad company charged a shipper partly by water and partly by rail, more for transporting property between two points on the railroad than it charged for the same service when the property transported was received from a connecting railroad and carried under a joint tariff arranged by the two railroad companies, did not establish a charge of undue preference or discrimination under the law of the State. Of course the inevitable effect of such a ruling and such a condition of law is to deprive waterways of their natural advantages and to discourage transportation by such routes.

It is a mooted question whether the Commissions should be given complete jurisdiction over carriers by water, or whether the jurisdiction should be confined to matters affecting the relations between the two classes of carriers.

The jurisdiction of the Interstate Commerce Commission as to waterway traffic is not general; it is only partial. The Act to Regulate Commerce expressly provides that it shall apply to any common carrier engaged in the

transportation of passengers or property wholly by railroad or partly by railroad and partly by water when both are used under a common control, management or arrangement for a continuous carriage or shipment and, by the amendment made to section 15 in 1910, it was declared that the Commission should not have the right to establish any route, classification, rate, fare or charge, when the transportation is wholly by water. It is only when the two carriers come in contact in the shipment of freight partly by rail and partly by water that the Commission is given supervision. But, upon principle, I see no reason why complete jurisdiction of carriers by water should not be conferred in all things relating to freight traffic. The fact that occasion for exercising it may arise only infrequently, is no reason why it should not exist; but certainly it is evident that the statutes should be amended in the other respects enumerated, so as to confer upon the State Commission as to intrastate commerce, powers like unto those possessed by the Interstate Commerce Commission with reference to interstate commerce.* It is only through such additions that the public will be protected, the water carrier will have a chance to compete and live and the result sought, which is the securing of increased facilities for the growing commerce of the State, will be achieved.

The argument is advanced that the railroads should be allowed the same use of the waterways as other corporations or as individuals, and that if abuses should develop by reason of such use, correction could be made by State or national commissions having authority in the premises. It is an old saying that "an ounce of prevention is better than a pound of cure." A statute which prevents an objectionable condition from arising, is much better than a state of law under which the condition may arise and then undertakes to provide a remedy for correcting the abuses which have grown up. Haling railroad corporations before Public Service Commissions is a lawsuit; it is a slow and expensive process. Many individuals would rather suffer wrongs than enter upon litigation. The true remedy, therefore, is not regulation but is exclusion.

An illustration of exclusion is found in Chapter 778 of the Laws of 1911, which is an act to amend the Transportation Corporations Law, by adding an additional article providing for the incorporation of freight terminal companies. The Law authorizes the formation of such companies and confers upon them extensive powers, including the power of eminent domain, so that the companies may, with the approval of the Public Service Commission, acquire real estate or rights of way to any property that may be necessary for their purposes, in the manner prescribed by the General Condemnation Law; and the act contains the following:

"No railroad corporation and no corporation or joint stock association engaged in carrying on what is known as an express business shall, either directly or indirectly, or through the medium of a holding company or otherwise, purchase, acquire or hold any of the stocks or any bonds or other evidences of indebtedness issued by any corporation which is formed under the provisions of this article."

So that we have both in the Panama Canal Act and in this new article of the Transportation Corporations Law, statutory restrictions upon the interfering activities of railroad corporations.

The case is one either of attempt to regulate monopoly, or to protect competition. While as to some services and under certain conditions, regulated monopoly may give more satisfactory results, when we come to deal with a matter of such volume and territorial extent and so vital in its nature as the transportation of the persons and property of the people, competition is, from every standpoint, the safer and wiser policy.

No lack of transportation facilities would arise by excluding railroad-owned or controlled vessels from the waterways. The business of carrying persons and property would be adequately provided for by others. Time there was before the railroad era set in, when our lakes, rivers and harbors swarmed with fleets of vessels. Then there was free play for the operation of the in-

*This is predicated on the assumption that the power conferred would not be contrary to Sec. 3, Art. 5 of the Constitution, which gives to the Superintendent of Public Works, "subject to the control of the Legislature," the power to make the rules and regulations "for the navigation or use of the canals."

telligence, enterprise and capital of individual citizens and rich rewards followed. We have the same factors to-day and in much greater abundance. They will readily respond to all the demands of the business of the country for transportation by water, if allowed to do so. It is sound public policy to give full opportunity in open field for the exercise of the highest and best qualities of American intelligence and daring, and the employment of the wealth and resources of the citizens acting either individually or together.

It is frequently said that the two classes of carriers perform somewhat different services in the carriage of freight, namely, that the water carriers transport the more bulky articles, such as iron ore, coal, grain, salt, sand, etc., while the railroads move the lighter and miscellaneous freight. This is true to an extent; but it is apparent that with the greatly increased capacity of locomotives and cars and the heavier weight of rails, the railroads are and will continue to be competitors for substantially all classes of freight. The necessity of meeting the interest upon bond issues and the effort to pay dividends upon the capital stock of railroad corporations, naturally tend to make traffic managers seek all the business that they can get and bear down upon water carriers in so doing. This tendency will continue; because with the canalization of rivers, the utilization of large and deep bodies of water as parts of canals and the improvement of channels in such a river as the Hudson, packet lines will be established in which power boats can operate with much greater speed than they would in narrow channels, and thus a growing commerce will be developed between the numerous cities and communities along the water highways. This commerce must be given a chance for healthy expansion. The State of New York has undertaken to supply one of the needs of such commerce by the establishment of freight terminals suitably equipped; but to make these fully effective, it is necessary that the railroads shall be required to make connections and interchanges and joint rates and fair division of such rates between and with the water carriers, such as they are required to make and do make between and with the rail lines themselves.

We know the things that have militated against transportation by waterways; it is time to move in the direction of preventing their continuance. Congress has set the pace; the State of New York should take it up. No commonwealth is more deeply concerned than the Empire State. The State has a right to limit the powers and activities of the corporations which derive their very life from the laws of the State and to regulate their relations with other corporations and with individuals carrying on business that is affected with a public interest.

The suggested additions to statute law may be summarized as follows:

1. The effective exclusion of railroad corporations from ownership of stocks and bonds of navigation companies.
2. Prohibiting railroad companies from operating barges or vessels on the canals and other public waters, except for the limited purposes above stated.
3. The granting of powers to order the making of physical connections between railroad freight stations and the State terminals and other terminals, wherever practicable and reasonably required.
4. Providing for the establishment of through routes and joint rates by rail and water carriers.
5. Power to prescribe a fair division of such rates.
6. When goods are shipped by a combination rail and water route, the railroad shall not be permitted to exact from the shipper more than it charges for the same service, if the goods were shipped all-rail under a joint tariff arranged by connecting railroads.
7. Carry into State Law the recommendation of the National Waterways Commission that there shall be "power to compel railways to charge less than the local rates to all lake, river and seaports on through traffic to be exchanged with boat lines engaged in domestic trade unless prorating arrangements already exist."

[Local rates are generally higher than through rates and where reductions are not granted the high local rate charged by a railroad on transfer traffic so largely offsets the lower water rate that there is no advantage of shipping by the combination rail and water route.]

8. Railroad rates reduced because of water competition, not to be increased without consent of a public commission, for cause shown.

9. The issuing of through bills of lading where property is shipped partly by rail and partly by water.

10. Equal facilities in the trans-shipment and interchange of freight between car and vessel.

11. Fair and just treatment of water-borne commerce by elevator and warehouse services.

12. Confer jurisdiction over common carriers by water, at least in the matters above specified.

Public policy should favor the waterway, not only because it affords a cheaper method of transportation and because it is a better regulator of rates than any official body can be, but also for the very important consideration that the railroad will be inadequate to meet the requirements of the expanding commerce of this rapidly growing nation. Rivalry exists and will continue between the railroad and the waterway. It is often said that one interest should not be hostile to the other; that each has its own sphere of usefulness; that each can derive advantage from the other and that their work should be co-operative and supplementary. Undoubtedly these things are true; but nevertheless the two agencies are and will be competitors; they will continue to seek the business of carrying the same kinds of freight and the field of competition will grow wider and wider as the waterways are developed, as the type of boats and the means of propulsion are improved and as physical union is had between the waterway terminal and the railroad freight station. State and national laws forbid monopolies and condemn combinations intended to limit production and fix the price of commodities. In the Northern Securities Case, the United States Supreme Court at the suit of the Government, upset the consolidation under the form of a holding company, of two competitive and substantially parallel lines of railroad. The same principle and policy should be applied to transportation. Every consideration demands that one agency alone shall not be allowed to have anything approaching a monopoly of the transportation of persons and property. The merchant and manufacturer who choose to ship partly by rail and partly by water should be given the same advantages that are accorded to them when they ship their goods by connecting lines of railway. There is a splendid future before the State of New York in commercial and industrial activities, if we solve our transportation problems upon right lines. Bitter will be the disappointment of the people in waterways as economic factors, unless legislation is enacted that will keep off the overshadowing hand of the railroad and permit of the freest development of these highways. This does not imply hostility to the railroad, which is one of the greatest industries and properties of the nation, which should be free from needless hampering regulations and restrictions and be enabled to charge remunerative rates. The purpose is wholly stimulative and protective. The day of favors and discrimination and attempted dominion in transportation is passed; the day of keeping open the door of competition and of just and equal treatment is here and it should be perpetuated. (Applause.)

PRESIDENT HILL: I am very sorry that Mr. Roche could not have been with us and have given us the benefit of his counsel during this Convention, but the paper is here and we have all the good that it contains, which is very much on a very important subject.

IMPORTANCE OF WATER TRANSPORTATION.

In planning for the papers that were to be presented and the addresses to be delivered at this Convention, there seemed to be no one man in this country whom you would be more delighted to hear than the next speaker. That man was known to us through his works, lucid and eloquent, years before we had the pleasure of forming his personal acquaintance. His position on waterway matters was pronounced years ago, and I venture the suggestion that no man in America has done more to emphasize the importance or all the results

and benefits flowing from waterway transportation than the speaker who is now to address you. He comes here as the official representative of the National Rivers and Harbors Congress, of which he is the honored secretary and treasurer. He speaks from a nation-wide viewpoint to us of the Empire State also, not so widely but as intensely interested as he and others engaged in this great movement.

I take great pleasure in presenting to the members of this Convention the Hon. S. A. Thompson of Washington. (Applause.)

Mr. Thompson said: Mr. President, Members of the New York State Waterways Association, Ladies and Gentlemen: I hope your President has a good firm will, and that he will exercise it in order that I may not trench unduly upon the time of the other speakers, whose papers I am very anxious to hear because I must admit that I have the same trouble that afflicts many of the railroads of the country, that is to say, I have a serious lack of terminal facilities.

I want to say at the very beginning of my remarks that I am in exactly the same position as the Presiding Elder of whom I have heard. The younger members of the Conference after debating the question had decided that the proper thing to do is to write out a sermon in advance and commit it to memory before delivering it, but when the gray-haired Elder rose he said: "Brethren, from my long experience in the ministry I am sure that you are in error. When you write out your sermons in advance the devil knows just what you are going to say and is busy putting doubts and questions into the minds of your hearers. Now, when I get up to preach the devil himself doesn't know what I'm going to say." This is only a joking way of saying to you, gentlemen, that I have no set speech to deliver, and if you wish for further information on any point, if you desire to ask my authority for any statement that I may make, or to dispute my conclusions, if you choose, you may interrupt me as often as you like and you cannot throw me off the track, for I am a deep water man and do not travel on a track, but like a steamship on the open lake, can steer my course in any direction that I please.

If we are to judge from the amount of time and attention given to it, we would naturally conclude that the tariff is the most important question before the people of the United States. I will not insult your intelligence by claiming that the tariff is not an important question, but I am here to claim and to give a few facts in support of my contention that there is a subject to which comparatively little attention is being given, but which is in many ways of vastly more importance than the tariff, and that subject is transportation.

Take it first from the standpoint of dollars and cents. I actually read in the newspapers not long ago of a man who went to the assessor and declared that his taxes were too small, and that he ought to be charged more. I am inclined to think that he is the only man in the United States who ever did anything of that kind, for most of us claim that our taxes are too high, and some of us have been charged with running dangerously close to the line of perjury in making up our returns for the assessor, but, gentlemen, very few people realize what is the biggest tax they pay. In 1902 the Census Bureau made a special investigation as to taxation in the United States. Comparing the report of this investigation with the statistics as to railways published by the Interstate Commerce Commission, I found much to my surprise that out of the gross earnings and income of the railways for that year there could have been paid every dollar spent by the National Government for all purposes, every dollar spent by the State and Territorial Governments for all purposes, every dollar spent by the cities, towns and villages of the country, and every dollar spent by every county, township and school district in the country, all added together, and there would have then been left more than \$173,000,000. So you see that the transportation taxes which we pay to the railroads of the United States alone, to say nothing of what is paid for transportation by water and by horse and wagon, are very much higher than those we pay for governmental purposes.

No such investigation has been made in recent years, but it is of interest to note that in 1907 the revenues of the railroads of the United States lacked

only \$5,000,000 of equaling the combined revenues of Great Britain, France, Spain, Italy, Holland, Belgium, Germany and Austria Hungary, so I say that from the dollars and cents standpoint the transportation question is a very much larger one than the tariff or taxation for governmental purposes. Another thing — if you will look over the tariff bill you will find a good many things on the free list. Some goods can be passed through the Custom House free of cost, but it is impossible to have anything transported without cost, for even when supplies for the relief of sufferers from some disaster are carried without charge they cannot be carried without cost to the companies which transport them. The tariff affects some things and some people part of the time; transportation affects everything and everybody everywhere and all the time.

A northern man spending the winter in the south turned one day to a black boy standing near and said: "Jim, how long will it take me to go over to Jonesville?" Jim replied, "Well, Boss, dat all depen's on how yoh's gwine ter go. Ef yoh walks, lak yoh is now, it'll take yoh free days; if yoh rides de Kunnel's thorobred yoh can git dah by to-night; ef yoh take de Dixie Flyah yoh's mos' dah now; an 'ef yoh goes by tellygraf yoh's done bin dah already." Jim saw quite clearly that the form of transportation available makes a great deal of difference as to the time it takes a person to reach a destination. It makes just as much difference with reference to the territory within which business can be profitably conducted, and this applies not only to firms and individuals but to cities, States and nations.

The experts of the Agricultural Department estimate the cost of transporting a ton of freight a distance of one mile by horse and wagon, on the average road in the United States, at twenty-three cents. In England where the roads are much better than most of those in this country, and where much attention has been given to the development of what the English call a steam lorry, and what we would call a steam truck, it is said that goods can be carried for five cents per ton per mile.

The average rate on all the railroads in the United States during the past few years has been about seven and a half mills per ton per mile, but I can pick out a special group of roads upon which the average has been about five mills.

On the Erie Canal in recent years the ton mile rate has been about three mills, while on certain canals in Europe which are deeper and wider, and on which electric or other mechanical systems of hauling are used, the rate is two mills.

The official records kept at the "Soo" show that the average rate on the freight carried into and out of Lake Superior in 1911 was two-thirds of a mill per ton mile, while coal is habitually carried from Buffalo to Duluth, and I have the authority of the Pittsburgh Coal Exchange for the statement that it has often been carried from Pittsburgh to New Orleans for one-third of a mill per ton per mile.

These are microscopic figures; let me translate them into something with which the average business man is more familiar. Here is something (holding up a dollar bill) with which I hope all of you are very much more familiar than I am. Suppose you have a ton of freight to ship and a dollar to spend in shipping it. How far will the dollar carry the ton by these different methods and at these different rates of transportation?

By horse and wagon, a little over four miles; by English steam truck, twenty miles; by rail, at the average rate for United States railways, 133 miles; at the rate on the group of selected railways, 200 miles; on the Erie Canal, 333 miles; on the European canals, 500 miles; by lake, at the average rate through the Soo Canal in 1911, 1,500 miles; while at the rate at which coal is carried both on the Great Lakes and on the Ohio and Mississippi Rivers, the ton of freight can be shipped thirty miles for a cent, 300 miles for a dime, 3,000 miles for a dollar.

The difference in the rates of transportation by different methods seem to be sufficiently great to be worthy of serious consideration, but there is more in this matter than has yet been made apparent. Taking any point as the center — naturally you people of this beautiful City of Watertown will think of Watertown as the center from which we should measure; you gentlemen who come from other cities will each think of your own community, for I want to say

that any man who is not more interested in the prosperity of the city in which he lives than in that of any other place would better get out and go to the other place—he might be of some use there—he is in the way where he is. (Applause.) Taking any point as the center, over how great a territory will a dollar carry a ton by these different methods and at these various rate of transportation?

By horse and wagon, over a circle a little more than eight miles in diameter; with the English steam truck on the English good road, the diameter of the circle becomes forty miles; at the average railway rate in the United States, it expands to 266 miles; by the selected railways, to 400 miles; at the Erie Canal rate, to 666 miles; at the European canal rate, to 1,000 miles; at the "Soo" Canal rates, to 3,000 miles; while at the coal rate which has been named, the dollar will carry the ton to the outer limits of a circle 6,000 miles in diameter.

The cost of transportation absolutely limits and determines the distance from which raw material can be drawn for manufacture, the distance to which the finished product can be shipped in competition with others in the same line, and this applies to cities, States and nations, as well as to firms and individuals. The figures that I have given you show that the cheapest possible transportation is water transportation, and that it is an economic loss when the people are compelled to use a costly form of transportation when a cheaper form is available or can be made available. I have sometimes wondered whether the astute gentlemen who seem to constitute the real governmental authority in this country are not keeping the different political parties quarreling over the tariff, so that we may not notice that they have both hands in our pockets taking out in transportation charges the money which ought to belong to us.

Let me give you a concrete illustration to show the difference in cost of transportation by different methods. The greatest amount of freight which has been carried through the Soo Canal at the outlet of Lake Superior in any one year was in 1910 when the amount was 62,263,218 tons. This was carried an average distance of 840 miles at an average charge of seventy-four one hundredths of a mill per ton per mile. If this tonnage had been sent an equal distance by rail at the average charge for railway transportation it would have cost in round numbers \$360,000,000 more than was actually paid for its carriage by water. That is the direct saving on the business of one lake for one year. On all the lakes in the same year there were carried at least 100,000,000 tons of freight. It is easy to speak of large figures but hard to understand what they really mean. Most of us are more familiar with freight cars than we are with steamships, and a hundred million tons of freight would fill 333,333,333 freight cars of thirty tons capacity—which is about a million and a quarter more freight cars than are in existence in the United States at the present time. Put a locomotive to every thirty cars, and it would make a solid train which would reach around the world at the Equator with enough left over to reach from New York to Omaha, and which, moving at the average freight train speed of sixteen miles per hour would take sixty-eight days and nights to pass a given point. That is the business handled on the Great Lakes in one year, and it would have cost at least \$600,000,000 more to handle that freight by rail at the average railway charge than was paid for carrying it by water.

When the bill making a grant of public lands to the State of Michigan to aid in building the first canal at the "Soo" was under consideration in the Senate of the United States, Henry Clay rose in his place and said: "It is a scheme to squander the public resources upon a chimera beyond the remotest bounds of settlement, if not in the moon." I sometimes wonder whether we have any better conception of the development which is yet to come than Henry Clay had of the results which would follow the building of the "Soo" Canal.

Waterways not only effect a saving by the decreased cost of the commodities actually transported by water, but also by the competitive effect of water routes on railway rates. Let me give you a few striking illustrations. A merchant in Spokane wanted two carloads of linoleum made in a factory near Chicago. He was dissatisfied with the freight rate quoted and did some figuring. What he did was to buy in Liverpool, England, two carloads of linoleum which had been made in that factory near Chicago, ship it on around

the world through the Suez Canal to Portland, Oregon, pay the duty on goods which had been made in the United States and ship them from Portland to Spokane at local rates, and then his transportation cost was much less than it would have been to pay the rate asked from Chicago to Spokane.

A merchant in Tucson, Arizona, bought a bill of goods in Chicago. His name was Albert Steinfeld, and he also did some figuring because he was much dissatisfied with the rate quoted him from Chicago to Tucson direct. He sent his goods from Chicago to Guaymas, on the Pacific Coast of Mexico, shipped them back at local rates from Guaymas to Nogales, paid duty on the goods which he had bought in his own country, and finally hauled them eighty miles by mule team across the desert to Tucson, and then was away ahead of the game as compared to the rail rate from Chicago to that city. This instance is especially interesting because there is no waterway from Chicago to Guaymas, but the rail rate is made so that Chicago merchants and Chicago railroads may share in the business, instead of letting it all go to the merchants in New York City, who have a route all the way by water via Cape Horn, or one which is shorter and practically all the way by water, via Panama or Tehuantepec.

I have spoken first of the fact that waterways carry more cheaply than the railways do or can and compel the railways to carry more cheaply than they otherwise would, in order, if possible to make a little stronger the impression upon your minds of that which I next have to say. If Noah had prophesied a drought instead of a flood and had issued bonds to construct an irrigation ditch instead of building an ark, he would have been a bright and shining example of business sagacity as compared to a railroad man who opposes the improvement of waterways, for it is my firm conviction that the best thing that can happen to any railway is to have a waterway paralleling every mile of its track. I will go further and make a statement at which some of you may be inclined to laugh, but wait until I have finished, and perhaps the laugh may be on my side. If we cannot get the Government of the United States or the States and cities which would be benefited to appropriate the needed funds, the railroads of the United States ought to issue every dollar of bonds which their credit will sustain and spend the greater portion of the proceeds for the improvement of the waterways of the country, and that, not as a matter of sentiment or patriotism, but as a hard-headed, cold-blooded business proposition. I have been studying this subject for nearly thirty years, and in all that time I have never heard of a single instance in any country or at any time where the improvement of an existing waterway or the creation of a new one has done anything else than to increase the dividends of the railways running along side.

But as thinking men you do not so much want my conclusions as you do the facts upon which to base your own opinions. The City of Manchester in England, partly by reason of the great deposits of coal nearby, and partly because of the character of its people had become a great manufacturing city and the chief center of the cotton spinning industry of the world, but in the early eighties it seems to have been struck with something that might aptly be called commercial leprosy. You know that in leprosy the hands and feet and other portions of the body slough off leaving a ghastly wreck more hideous than death, and in Manchester 5,000 dwelling houses were tenantless, hundreds of warehouses stood vacant and scores of factories were closed down and some had moved elsewhere. The building of the Manchester Ship Canal was not a matter of choice. It was a matter of life or death. After they had started they found that the canal would cost more than they expected in the first place, but they kept right at it until they had put nearly \$87,000,000 into the building of a canal 32½ miles long. It is a fact, and one to which certain advocates of railways have often called attention, that no dividend has yet been paid on the capital invested in the Manchester Ship Canal, but public works are often profitable even if no direct dividend is paid upon their cost. A prominent Alderman of Manchester once said: "If the city never gets back a pound of the principal or a farthing of interest on its investment in the Ship Canal, it has already received something far better than dividends through the effect of the canal upon the life of the city," and you will agree that the Alderman's statement was correct when I tell you that within four years after the completion of the canal not only were the 5,000 tenement houses reoccupied, but

20,000 new ones had been built and occupied, all the vacant warehouses and hundreds of new ones were filled with the bustle of business, and factories new and old were humming with industry. The population of the city has doubled, and it is to-day the center and the nearest port of a great community inhabited by 8,000,000 prosperous people. The disease from which Manchester was suffering was costly transportation, and the remedy that worked this modern miracle, giving growth and life instead of decay and death, was the construction of a ship canal.

What do the railroad men say in regard to this? Now, I am not hostile to the railroads. I do not know of any waterway advocate who is hostile to the real interests of the railroads, but I am hostile to the idea that some of them have that they ought to be allowed the unrestricted right to make whatever rates they please. The unrestricted right to make transportation rates is equivalent to the power of life or death, and it may as well be understood by all concerned that the people are going to have something to say about a matter which so vitally affects the interests of the whole United States, and of every city, community and individual in it, and in solving our transportation problems we shall improve our waterways in spite of the short-sighted opposition of certain railway men, for it must be remembered that the rivers run by the authority of Almighty God, while a railroad is required to get a charter from the Legislature.

Railway men have said to me that the Ship Canal benefited Manchester because it made that city an ocean port, while we are talking of improving not only our harbors but our inland waterways as well. Then let us go over into the heart of Germany, far from the sea and more than twenty miles from the Rhine, to the banks of a little shallow river called the Main. Founded by the Romans about A. D. 150, in after years the residence of Charlemagne. Frankfort, by the slow growth of centuries had reached a population in 1880 of some 140,000. Something happened to make a wonderful change in the rate of growth, for Frankfort gained more in the next twenty years than in all the centuries before, and to-day, with the suburbs which lie close around her borders, has a population of nearly 500,000.

The "something" that happened was the canalization of the river, completed in the fall of 1886, which made the Main a part of the Rhine navigation system, and which, while it did not allow ocean vessels to come direct to Frankfort, did enable that city to ship goods all the way by water to or from any port on all the Seven Seas. The locks have since been lengthened and other improvements made so that much larger boats can use the river, and Frankfort, which spent some \$2,000,000, back in 1886, to equip her harbor, is now spending \$17,600,000 on a new and greater harbor to properly care for her swiftly growing trade.

Now, there is a railroad running down each bank of the River Main from Frankfort to the Rhine. What happened to them? Did their business fall off, or did they go into the hands of a receiver or pass through bankruptcy? On the contrary their business began to increase by leaps and bounds. Ten years after the river was improved the tonnage of the railways was twice what it had been when they had a practical monopoly of all the traffic of Frankfort. Nor is this all. In fact it is only the beginning, for the traffic was not only doubled in quantity but was equalized in direction. I am quoting now from a report made by Consul-General Frank H. Mason, a man of such ability that, through all changes not only in administration but of party, he has been kept in high consular positions for the last twenty-five years. Formerly, as Mr. Mason says, Frankfort had little to sell and everything to buy. Cars and boats came in loaded and went back empty, but with the development of business which followed the improvement of the river cars and boats traveled loaded in both directions. In Ft. Wayne, Indiana, a short time ago I was talking with a gentleman who was born upon the banks of the River Main, and he told me of two visits which he made twelve years apart, the one before and the other after the improvement was made, and he declares that his friends think he is stretching the truth when he tells them that the river is now lined with industries all the way from Frankfort to the Rhine. But not only has the traffic been doubled in quantity, in fact, far more than doubled by this time, and equalized in

direction, but it has been raised in grade, so that it can afford to pay and does pay, a much higher rate per ton per mile, and hence is much more profitable. And besides all that there is a great increase in passenger traffic due to the growth of the city and the surrounding territory in population. A side light as to the effect of the river improvement upon the interest of the railways is given by the fact that the railway administration has been compelled to spend eleven millions of dollars in increasing their terminal facilities in the City of Frankfort.

If there still be some who think that these are but isolated instances, let me broaden the thing a little to show you that there is a great underlying principle which is of universal application, and that is the point that I am trying to impress upon your minds this afternoon. Germany, Holland and Belgium are three countries which belong together geographically and commercially, although politically separate. They occupy so large a place in the world's activities that it is hard to realize how small they are in area. Holland and Belgium together are almost exactly the size of West Virginia. Take the combined area of the three and lay it down on the State of Texas, and there will be enough territory uncovered to make the State of Maine. Compared with the United States they have one-thirteenth our area, 14,000,000 less population, half as much accumulated wealth, and a soil and climate no better than ours to say the least, yet in some respects they are far ahead of us.

Let me digress a moment before I give you the particular figures I have in mind. We people in the United States are apt to think we are the greatest people on earth. At least that is true out west where I came from originally. We talk about the nine thousand million dollars' worth of agricultural products in a single year, and think it is a big thing. So it is, but when I find that the average production per acre is three times as much in Belgium as it is in the United States, I do not find anything in that to be proud of. One of the principal items of our foreign commerce is raw cotton, but when I find that little Switzerland that never raised any cotton and never can, that has no coal, no sea coast, and not a plank afloat upon the sea, buys cotton from the United States, has it carried across the ocean and up into her mountain valleys where it is manufactured, and then sends back in the ships of other nations and sells to the United States each year high grade cotton goods of a value that is from 18 to 20 times as great as that we sell to the whole of Europe, I feel less like climbing a hill and shouting than I do not like crawling into a hole and keeping still.

In 1908 the foreign commerce of the United States, that is the sum of the imports and exports, amounted to \$2,845,044,087. That looks large standing by itself, but it seems to shrink a good deal when put along side the corresponding figures for Germany, Holland and Belgium, for to this sum, large as it is, we must add one billion, two billions, three billions of dollars, and then pile nearly six hundred millions more on top of that to equal the \$6,433,347,839 which represents the foreign trade of three little countries which we could lose in one of our States.

Doubtless there is more than one reason for this astounding difference, but one fundamental reason is this, that the "transportation trinity" of good roads, railways and waterways is more completely developed in that territory than anywhere else on earth. In the ponderous report of the British Royal Commission on Canals and Inland Navigation, I find the sworn testimony of a manufacturer in the Midland District of England, less than eighty miles from a first class harbor and 105 miles by rail from London, who says that he has not only been beaten in the markets of the world which he once dominated in his line, but actually beaten in the capital of his own country by manufacturers at Frankfort and Mannheim, in the heart of Germany, 500 miles further away, but with water transportation available all the way. We can never develop all the marvelous resources of this country of ours to the fullest possible extent, or take the place that rightfully belongs to us in the commerce of the world, until we have made the greatest possible extension and improvement of the waterways with which we are so richly endowed.

I have already occupied more time than I should have done, but I wish to say a few words more. I am profoundly interested in the paper that was just read. During the time that the Panama Canal Act was pending the National

Rivers and Harbors Congress, which I have the honor to represent before you to-day, used all its resources and such ability as the office force possessed, and sent out thousands upon thousands of newspaper letters, circulars and documents of many kinds to urge that American ships carrying coastwise commerce should pass through the Panama Canal free of tolls, and also that legislation regulating the relations between railways and waterways should be embodied in the bill. I am glad to say that the bill passed in the form desired. For our action in securing its passage I have no apology to make to anybody, and if certain Senators insist upon doing what they threaten now to do, that is re-open the question, if I am living I shall be in the fight again up to my neck.

Sitting in the office of Col. Goethals a few weeks ago, I said to him: "When do you expect to have the canal open?" He replied, "Aside from a possible delay on the part of the contractors for the lock gates, I see no reason why I cannot on the 1st of September, 1913, take the first ship that is available and put her through from ocean to ocean. If I get that one through all right I shall thereafter accept anything that comes along." From my personal contact with him, and from what I know of him otherwise, I say to you that this man, whom I count one of the great men of the age, is going to come very near doing what he promises. That means that the time of opening the Panama Canal is very close at hand, and we shall never get the fullest benefit from the enormous expenditure which we are making upon that canal until the waterways of the United States have been completely improved so that from every corner of the country we shall be able not only to exchange goods between the different parts of the United States by the cheapest form of transportation, but shall be able to get our goods down to the sea coast at a moderate cost, and so start them on their ocean journey in fair competition with other nations.

Some time ago I was talking with Mr. W. S. Dickey down in Kansas City. He is the President of a large company which manufactures sewer pipe, tile, and clay products of that kind. He found himself able to compete satisfactorily most anywhere in the United States, and thought he would reach after some foreign trade also, so he sent men down to South America — and I wish I had an hour or two to tell you of the marvelous developments going on in that country — he sent men to the Philippines, to Hong Kong, Shanghai and other cities controlled by Europeans on the coast of Asia. They came back without a single order, beaten in every case by the Germans, not because the German goods are any better, not because the first cost of manufacture is any less in Germany, for the lower cost of labor there is balanced by the higher efficiency of labor and the larger employment of labor saving machinery in this country. but because the German with his magnificent system of waterways could get his goods down to the sea coast for eighty cents a ton, while Mr. Dickey had to pay \$4.80 a ton, and on that class of goods the difference of \$4.00 per ton made the difference between getting business and getting left.

As an indication of the fact that with improved waterways the benefits of the Panama Canal will be felt in the interior of the country as well as on the sea coasts, let me tell you of a shipment composed partly of barley and partly of canned fruits which was loaded on a ship at San Francisco and taken to Panama, taken out of the ship and put on a railroad train and hauled across the Isthmus, unloaded from the train and loaded on another ship and taken to New Orleans, unloaded once more from the ship and put on a barge in which it was taken up the Mississippi to St. Louis, and on that single barge load of goods, with all those intermediate transfers, the saving was \$2,000, as compared to sending it by railroad from San Francisco to St. Louis direct.

I want to put one thought into the minds of the Watertown men who are present in the hope that it may take root and grow, and some day bear fruit. I am not absolutely familiar with the topography of your country, but unless there be conditions unknown to me, which would unduly increase the cost, you ought to join with the other communities along the line and secure the construction of a canal which will connect with the new Barge Canal in one direction and with Lake Ontario in the other. There is a little community over in Germany, the name of which escapes me at the moment, but it is just a little city lying on the banks of a canal which is not as large as Black River, and they are advertising to all the world the fact that they have spent a million and a

half of dollars in building a harbor on that canal, and inviting the world to establish manufactories and do business through that harbor.

Another suggestive thing is that a good many of our large American corporations, the American Car Wheel and Foundry Company, The Westinghouse Electric Company, The International Harvester Company and others of that class, are building branch factories in Europe, and you will not find a single one of them locating off the banks of a waterway. The reports of the Census of 1900 show that in that year there were twenty-four cities in the United States that had a population of 150,000 and over, only one of which was not situated on a navigable waterway. There were twenty-two cities that had manufactured products amounting to \$65,000,000 or over, and again there was but one which was not upon a waterway.

It seems to me that at last the thirty years or more of agitation in this country has begun to bear fruit. At last the time has come when the people of the United States are waking up to the importance of waterways. We have reached the point where we can no longer depend solely upon the home market, but must reach out after a share in the foreign trade. Unwelcome as the statement is to many people, I believe that the first effect of the Panama Canal will be to help our competitors for foreign trade, rather than to enlarge our own. Inside of ten years after the Panama Canal is opened I believe that this fact will be so plain to the people of the United States that it will create as great a wave of dynamic public opinion in favor of the improvement of all our waterways as the trip of the Oregon around Cape Horn at the time of the Spanish-American War created in favor of the construction of the Panama Canal. Railway influence in general, and that of C. P. Huntington in particular, had delayed the starting of work for years. Commissions were appointed and reported, only to be succeeded by other commissions, which reported, and that thing might have been going on until now if it had not been that for weeks the nation hung in suspense for fear that the Oregon might meet the entire Spanish fleet and be overwhelmed by superior numbers, and that led them to say to anything and anybody, "We are going to build that canal, and you may either get out of the way or be run over." If in some way I could make the people of the United States understand the real force and effect and bearing of this transportation question, the politicians of the country from the highest to the lowest, who are to-day talking about the tariff would either begin talking and legislating about transportation, or some new set of names would be put upon the tickets and men would be elected who would give proper attention to the fundamental question of transportation.

Just one other illustration, one further thought, and I will sit down, for I have gone far beyond what I ought to have done.

(Cries of "Go ahead, go ahead.")

MR. THOMPSON: Some railroad men in opposing the improvement of waterways call attention to the low cost of transportation on individual articles, for instance, one of them says that the average freight on a pair of shoes from the factory in Massachusetts, to Chicago, is only $4\frac{3}{4}$ cents, and "who cares for a difference of five cents on a pair of shoes?" I do not think there is anybody here in the house who would stop very long to consider the addition of five cents upon a pair of shoes, but let me say in passing that you never get very far into an economic question until you find also a moral question involved. If you go into the poorer quarters of our cities such as New York or Chicago, you will find many people there who must consider every cent of cost added to every article of food or clothing, and everything that enters into their lives. Every day some man is brought to the point where he must choose whether he is going to steal or see his family suffer; some woman is brought to the terrible choice between the starvation of her body or the damnation of her soul. The cattle are shipped from the west to the packing houses in Chicago, the hide is shipped to the tannery, from the tannery to the finisher, from the finisher to the wholesaler, from the wholesaler to the jobber, from him to the shoe factory, from the factory perhaps to another jobber, and from him to the retailer. Transportation affected everything all along the line. Transportation increased the cost of the meat that was taken out of the beef cattle; transportation in-

creased the cost of the materials that go into the houses where workmen live. The cost of the clothing that they wear and the whole cost of living has to be taken into account in fixing the wages paid to the men who make the shoes, so that the $4\frac{3}{4}$ cents paid on the completed pair of shoes does not begin to show the total cost of that pair of shoes due to transportation. It would not surprise me if the increase was not nearer fifty cents, than $4\frac{3}{4}$. You and I possibly would not mind the fifty cents, but we must not forget that there are thousands and thousands of people in this country to whom fifty cents on a pair of shoes, when there are six or eight or ten in the family, means a whole lot.

Thus far I have spoken solely on the economic question. Bear with me a few moments longer while I turn your thoughts in another direction. When next you look at a map of the United States notice how like the western end of Lake Superior is to the index finger of a giant hand. Follow the pointing of that mighty finger across the pine forests of Minnesota, out of which the Mississippi flows, across the prairies of the west until they break into the foothills, and then leap skyward to the summits of the Rocky Mountains, and there deep graven by the hand of God Himself and hung aloft upon a mighty mountain sit where its white purity shall be forever without spot or stain, behold the symbol which is recognized the world around as the emblem of the Prince of Peace. I am one of those who believe that nothing comes by chance, and that there is a deep significance in the pointing of the mighty finger toward the mountain of the Holy Cross. I believe it means that it is the high destiny of this nation of ours to lift from the bent shoulders of the sons of toil the crushing weight of militarism, to take from every mother's heart the fear that her son may be dragged from her side to die upon a battlefield. If we shall have the wisdom to completely improve all our waterways and so make possible the complete development of all the magnificent resources with which a beneficent Creator has endowed us, it needs no prophet's vision to foresee the speedy coming of a day when America shall be so dowered with illimitable wealth, so girded with resistless might that she may stretch forth the right hand of her power and say to all the warring tribes of earth, "Henceforth there shall be peace." (Long applause.)

PRESIDENT HILL: Mr. Thompson, I need not add a word in appreciation of the reception which your splendid address has received. The feeling here is unanimous and we are thrilled with the sentiments which you have expressed.

We now have the pleasure of hearing from the gentleman who was on the program for yesterday but was unable to be present. He has come a long distance to present his views on the subject, "The Flushing and Jamaica Bay Canal, a Public Necessity." I take great pleasure in presenting to you one of the Executive Committee of this organization, the Hon. M. E. Connelly, Borough President of Queens.

A copy of Mr. Connelly's address was not received in time to be included in the report.

STANDARD BARGES FOR THE BARGE CANAL.

PRESIDENT HILL: If anybody has had a doubt about the desirability of the construction of the Barge Canals, I hope that doubt is now removed. We have one more paper to be read. Mr. Lewis Nixon of New York, who has given a great deal of consideration to the matter of canal boats and barges, etc., was to be here to speak on the subject, "Standard Barges for the Barge Canal." I received a letter this morning from him saying possibly he might be able to get here last night but if not, we were at liberty to have the paper read. I will ask Mr. Stratton of Flushing if he will read to us the paper.

Mr. Stratton read:

The discussion of the question of a standard barge before actual service has evolved the type best suited to traffic on our new canal, limits one to tentative views.

A steel barge 290 feet by 44 feet by $10\frac{1}{2}$ feet draft and 14 feet depth would require about 1,200,000 pounds or 600 tons of steel for the hull.

Three hundred horsepower should be enough to drive such a vessel five miles per hour in open water, and four miles on the canal.

If this power is in a motor engine burning distillate the boat would carry probably 100 tons more than if a heavy oil engine were used, but with the fuel oil the cost of fuel would be about one-tenth of a mill per ton per mile, while with gasolene it would be about four-tenths of a mill.

The cost of the gasolene engine would be about one-third the cost of the heavy oil engine and there is the question to be considered of the supply of men who can run an ordinary motor and those who can run heavy oil engines.

In all probability gasolene engines with or without kerosene-burning attachments or plain kerosene engines will be used in the earlier vessels.

A vessel such as above outlined, with 300 horsepower, will cost approximately \$50,000,—this for a vessel carrying 2,000 tons on 10 feet, each additional inch draft carrying about 22 tons.

A steel canal boat of the present standard size without power 100 feet by 18 feet by 6 feet draft would cost now about \$7,500. This will carry about 240 tons, so that the gain in going to the larger sizes is seen to be very great.

The steel vessel should be much stronger, more durable, capable of more efficient subdivision and receive much more favorable insurance rates.

When vessels carry as much as 2,000 tons I think they should have their own power for in coming down the river large tugs can still be used for the vessels in fleets using their own power to supplement the towing power.

I advocate motors because they are simpler than steam, use fewer men, are more universally understood in manipulation, besides doing away with the disposal of ashes, coaling and watering.

These figures are hurriedly made at my desk with no data for reference, but I believe they are sufficiently accurate to add some value to discussion.

PRESIDENT HILL: Our program of papers and addresses is completed. The next business in order is the report of the Committee on Resolutions, and I recognize Judge Cullinan of Oswego.

MR. CULLINAN: Mr. President and Gentlemen of the Convention, the Committee on Resolutions has requested me to submit the following for consideration and request their adoption: "The New York State Waterways Association in Convention assembled at the City of Watertown, N. Y., September 19 and 20, 1912, reaffirms its adhesion to the principles expressed in its Constitution and By-Laws and the policy to be pursued in securing for the people such action from the duly constituted authorities, whether national, State or domestic, as will furnish relief from the evils complained of and insure the operation of activities for the improvement of the rivers, harbors and waterways of the State of New York.

1. The Convention re-approves the proposition to furnish, develop and improve the Black River Canal and its extension from Carthage to Lake Ontario.

2. The approval is extended to the proposition comprising the survey for a canal connecting Flushing and Jamaica Bays and that the Canal Board of the State of New York proceed speedily with the construction of the terminal at Jamaica Bay.

3. Approval is extended to the proposition calling upon the United States Government to proceed expeditiously in the performance of the necessary work in connection with the proposed waterway from the Hudson River to the Long Island Sound or East River via the Harlem Ship Canal and the Harlem River and the Bronx Kills.

4. Approval is extended to the proposition requesting the United States Government to construct a twenty-four-foot channel in the upper Hudson River as far north as Waterford and of sufficient width to permit the passage of canal boats and steamers in said channel.

5. Approval is extended to the proposition calling upon the National Government to improve the harbors of Tonawanda and North Tonawanda and Tonawanda Creek from the Niagara River to the location of the proposed Terminal Canal, so as to accommodate the largest lake vessels; that the State of New York should construct lift bridges over Tonawanda Creek and improve

said creek as well as Ellicott Creek so as to permit the safe and proper navigation of the Barge Canal.

6. Approval is also extended to the proposition asking the National Government to improve Inner Harbor of Buffalo and widen the channel of the Black Rock Harbor.

7. The improvement of waterways along the south side of Long Island connecting Gravesend Bay and Jamaica Bay on the West with Peconic Bay on the east is indorsed and action by the National Government in the premises is desirable.

8. The attention of the National Government is requested, to the condition of the Oswego Harbor, requiring such improvements as will permit the safe and expeditious handling of the increased traffic upon the completion of the Barge Canal and Canadian waterways.

9. That the President of the Association appoint a committee of three or five persons to confer with the Commission authorized by the State of New York to consider and report upon the type of boat for navigation of the Barge Canal and present such views for the consideration of such Commission as may be in the interest of the proper navigation of said canal.

10. We recommend that five persons be named by the President who, in addition to the President shall constitute a Committee on Legislation, which committee shall have power to prepare and cause to be presented to the Legislature suitable amendments to the Transportation Corporations Law and the Public Service Commissions Law of this State intended to safeguard and develop commerce upon the public waters of the State and which, among other things, shall confer upon the Public Service Commission powers and authority as to interstate commerce like unto those which have been conferred by Congress upon the Interstate Commerce Commission with reference to interstate commerce; and said committee is requested to appear before committees of the Legislature and advocate the passage of such amendments.

11. That this Convention declares it to be sound public policy that railroad corporations shall not either directly or indirectly be permitted to purchase or hold or in any manner control the stocks of navigation companies, or to operate barges or vessels upon the canals or other public waters of the State or control said operation, directly or indirectly, and the Convention is in favor of making the existing statute on the subject of such stock ownership more effective than it is.

12. Said committee shall also present to the Legislature such measures as may be necessary to protect the Barge Canal, its terminals and their appurtenances and safeguard the same in the interest of the people of the State.

13. The conservation of the natural resources of the State is a question requiring the most careful consideration. Legislation is desirable for the development of all natural resources in the interest of the people of the State, but without prejudice to legitimate enterprise, or interference with vested rights.

14. Suitable legislation is recommended preventing railroads discriminating against carriers by water and compelling said railroads to extend to said carriers by water the same facilities, rates and advantages which they extend their most favored patrons and shippers.

15. The President of this Association is authorized to appoint a committee of five to urge the construction of proper channels upon the Hudson River, the Champlain Canal and Lake Champlain and to confer with the authorities of the Dominion of Canada, particularly with the Province of Quebec, and the authorities of the State of Vermont, to secure such co-operation as may be desirable to insure the best results in the development of the said waterway comprising said river, canal and lake.

16. The commercial supremacy of the State of New York is threatened by the activities of the Dominion of Canada rival routes to the Atlantic through the United States and the contemplated scheme providing a route from the Great Lakes via the Mississippi to the Gulf of Mexico diverting traffic from the Port of New York.

17. It is believed that upon the completion of the Barge Canal the new route to the Port of New York will be potent in assuring the commercial supremacy of that port and thereby contribute to the welfare of the entire State.

18. The officers of this Association are requested to transmit to the members of Congress from this State the action of this Convention on all matters requiring governmental action, requesting their assistance and co-operation in the premises.

19. Said officers are also requested to transmit to their proper officers of the Engineering Corps of the Army, the action taken by this Convention on the various subjects on matters herein referred to.

20. The officers of this Association are also further requested to transmit to the members of the Legislature of 1913, the action of this Convention on all matters which require legislation and requesting their assistance and co-operation in the premises. They shall also communicate with the State authorities relative to all matters mentioned herein within the sphere of their respective duties and respectfully request their assistance and co-operation in carrying out the various projects approved by the Convention.

21. Approval is extended to the proposition for the improvement of the harbor of the Port of New York generally in accordance with the plans therefor prepared by the Hon. Calvin Tompkins, Dock Commissioner of said City of New York.

MR. CLINTON: Before moving the adoption of the resolutions I desire to say that unfortunately in the haste occasioned by the great amount of labor imposed upon our Chairman, who assumed the burden of preparing the resolutions after we had come to an agreement, two important resolutions have inadvertently been omitted, and I therefore move as an amendment to these resolutions, with the consent of the Chairman, that this Association approves and urges the passage by the Legislature of 1913 of the constitutional amendment known as the Bird amendment. I have not the article or section.

SENATOR COBB: Amending section 7 of article 7 of the Constitution.

MR. CLINTON: And the reason of that is that as that section of the Constitution now stands it is a legal obstacle to the conservation, if I may use that pet term, of our water resources in the Adirondacks. The amendment has been agreed upon, at least assented to by all who have had that subject under consideration.

The second resolution which I desire to move to add is one urging the Legislature to amend section 7, I think it is, article 4, section 4, article 7 of the Constitution, which protects the Erie, Champlain, Oswego, Black River, Seneca and Cayuga Canals from sale, lease or disposal, to provide by amendment in suitable language so that that protection may beyond a peradventure extend to the improved canals and be so worded as to include the other canals which are proposed to be constructed. It is impossible to draft the language at this time. And also to protect the terminals. There is a question as to whether that provision of the Constitution does protect the Barge Canal. You, Mr. President, will remember what difficulty we had in preparing the Barge Canal Improvement bill to avoid constitutional criticism or criticism on constitutional grounds. It opens the door. That provision of the Constitution does not protect the other canals which may be constructed and that provision of the Constitution does not protect the terminals. The terminals are now protected by the Canal Terminal Act, but that is an Act of the Legislature that may be changed at any time; and while we have perfect confidence in our Legislature and its good intentions, you will excuse me, Senator, we have not that same confidence always in its wisdom. If the President will permit me, I will endeavor to put those resolutions in proper language for the record subsequently.

PRESIDENT HILL: Gentlemen, you have heard the proposed amendments to the report of the Committee on Resolutions. Mr. Chairman, are they acceptable?

MR. CULLINAN: They are acceptable as far as I am able to consent.

PRESIDENT HILL: Do any of the gentlemen of the committee object to those two additional items or paragraphs?

MR. CULLINAN: They were inadvertently omitted.

PRESIDENT HILL: You have heard the two amendments proposed by Mr. Clinton to the report. As many as are in favor of the adoption of the amendments, manifest it by saying aye, contrary minded, no. They are adopted.

I will ask Mr. Clinton and Mr. Cullinan to prepare those two paragraphs for our record, so as to get it completed.

MR. CLINTON: I move the adoption of the report as amended.

A DELEGATE: I second the motion.

PRESIDENT HILL: You have heard the motion of Mr. Clinton that the report as amended be adopted. Are there any remarks? All in favor of report being adopted as amended, manifest it by saying aye; contray minded, no. It seems to be and is carried, and the report is unanimously adopted. (Applause.)

MR. KILLMER: The Committee on Resolutions had presented to them another resolution which they were in favor of but which they thought merited special consideration and, as it had reference to the action of the Hon. Calvin Tomkins, Dock Commissioner of the City of New York, they thought his paper that he sent here was worthy of giving this resolutions special attention and so they requested me to present it at this time.

WHEREAS, the Hon. Calvin Tomkins, Dock Commissioner of the City of New York, has attempted to improve the adverse conditions affecting the commerce at the Port of New York by recommending to the City Authorities, the necessary improvements and developments that in his opinion will accomplish that object, urging said authorities to give said recommendations each consideration and setting apart opportunity for the business interests of the City to express themselves thereupon; therefore, be it

RESOLVED, That we, the New York State Waterways Association, earnestly urge the said City Authorities to give heed to said recommendations and to give the commercial interests of the City the earliest opportunity to be heard thereupon, and be it further,

RESOLVED, That a copy of these resolutions be sent the members of the Board of Estimate and Apportionment and the Dock Commissioner.

I move you, Mr. Chairman, that these resolutions be adopted by a rising vote.

The motion was seconded.

PRESIDENT HILL: Are there any remarks before we proceed to a vote?

MR. CULLINAN: Mr. Chairman and Gentlemen of the Convention: I beg leave to say in support of the resolution by Mr. Killmer that they were first incorporated in the general resolutions of the committee which have been already passed upon, but upon deliberation it was thought that their importance suggested that they be the subject of an independent resolution and thereby carrying more effect than if they were incorporated in the general body of the resolutions.

MR. W. FRED SILLECK: I rise to explain this resolution so that the gentlemen present can understand a little better upon what they are voting. The situation in New York City is rather peculiar. The railroads practically control the water fronts. The installation of the canal terminal at Jamaica Bay under its present conditions is practically under the control of the Pennsylvania Railroad. It is the only railroad that touches Jamaica Bay. The water front in the City of New York is practically controlled by railroads and the improvement, that the Dock Commissioner wishes to make in connection with the canal terminal at , is the installation of an assembly of a great railway yard under municipal control and in order to make that

terminal of your canal in New York City valuable to all railroads, it is necessary that the Dock Commissioner's plans be carried out. You can understand in this section of the State the reason and the value of protecting your terminals from railroad control. The railroads can afford to give you control of your terminals without opposition. But if they control the terminal at New York City, then you might as well make them a present of your whole canal. It is like a bottle already corked up. You will get nothing into it and only what they choose to let go in and for two years we have in New York City tried to get some action upon the part of our City officials that these improvements might be made. We listened to a very beautiful and interesting and a very intelligent address this afternoon from Mr. Thompson. There was only one fault I have to find with it, it was not delivered in the right place. Watertown is alive; Watertown is enthusiastic; you have the right appreciation of the value of the waterways and the railroad connection under proper control. If I could only get Mr. Thompson before our City officials and in that same earnest, energetic, emphatic way say to them: You are of no use here, get out, you might be some use somewhere else, I would be willing to pay for his entertainment down there for some time to come. (Applause.) So if any action upon the part of this Association will bring action in the City of New York, you will have the deep and lasting gratitude of all its citizens. I am not speaking for myself. I am not speaking for New York. It is vital to your interests. We are one State. It is the outlet of your goods. It is the inlet of your goods. It is the future prosperity of the great State of New York, whether we control our terminal and our shipping or whether the railroads control it. The endorsement of these resolutions, I hope, will have the unanimous support of this convention. (Applause.)

MR. KILLMER: I would like to explain that this resolution does not commit the convention to any particular policy; it simply asks what the Dock Commissioner asked, that the authorities of the City of New York permit commercial bodies to have a hearing upon this question.

The resolution was then adopted.

By George W. Wilson, Brooklyn:

RESOLVED, That the members of this Association appreciate the intelligent, painstaking efforts of the committee appointed to draft its Constitution, By-laws and Rules of Procedure, of which Hon. Frank S. Gardner, of New York, was chairman, and take this occasion to express to Mr. Gardner and his colleagues on such committee their grateful acknowledgments for the services they have rendered in preparing and presenting to this Association, such Constitution, By-laws and Rules of Procedure, which have been adopted.

Seconded by Nelson B. Killmer and adopted unanimously.

PRESIDENT HILL: I will recognize Mr. Hoile.

MR. HOILE: It gives me great pleasure to commend another, at least it should be so; and that a member of this organization from its birth to the present time must have recognition of the able and efficient service rendered by resolution. I, therefore, take personal and great pleasure in moving you, sir, that in the preparation of the annual report and in other very valuable and efficient services rendered by Roland B. Woodward, that this Association approves, commends and thanks Mr. Woodward for his services.

By Mr. Hoile:

RESOLVED, That the members of this Association who have received and examined the Report of the Second Annual Convention of the New York State Waterways Association are grateful to Roland B. Woodward, of Rochester, N. Y., Secretary of the Association, for his compiling, editorial work and supervision of the publication of such report, as well as for the many other labors performed by him in behalf of this Association, and take this opportunity to express to Mr. Woodward their deep appreciation for all of such services.

PRESIDENT HILL: You have heard the resolution, which I hope Mr. Hoile will put into writing so we may have it in the record. Mr. Hoile refers to the services of Mr. Woodward and, may I from the chair, say just a word? For three years Mr. Woodward has been the unpaid secretary of this Association. He has rendered services of high quality and efficiency from my experience as your presiding officer during the last year. They have been quite continuous owing to duties which were placed upon him in his own city. He has come to be recognized all over the State and he feels that he ought not to be called on to continue the work of this Association longer, and I most heartily endorse what has been said by Mr. Hoile from personal experience and that we have had most admirable and most intelligent service on the part of Mr. Woodward. Is the motion seconded?

A DELEGATE: I second the motion.

PRESIDENT HILL: All in favor, manifest it by saying aye; contrary minded, no. It seems to be and is adopted.

I will recognize Mr. Hutchings, of Rochester.

MR. HUTCHINGS: I wish to present the following resolution and move its adoption:

PRESIDENT HILL: Mr. Hutchings, of Rochester, presents a resolution.

By Mr. Hutchings:

RESOLVED: The members of the New York State Waterways Association who have listened to the interesting and able papers presented and addresses delivered at this Third Annual Convention of the Association have been edified and instructed by the subjects presented by the various speakers and take this occasion to express to each of them their deep appreciation for their efforts, which have contributed so largely to the success of the convention.

PRESIDENT HILL: Gentlemen, this I think will be conceded to have been one of the most successful conventions we have ever held in this State from the viewpoint of the importance and excellence of the papers and addresses to which we have listened. I am very glad that Mr. Hutchings, of Rochester, has presented this resolution. As many as are in favor of this resolution say aye; contrary minded, no. It seems to be and is adopted.

MR. CULLINAN: Mr. Chairman and Gentlemen: I desire to offer an amendment to Article 3 of the Constitution. That Article reads as follows: "The membership of the New York State Waterways Association shall consist of individuals, firms, corporations, and delegates from local associations, boards of trade, business men's associations, chambers of commerce, and exchanges, who or which may subscribe to this Constitution and contribute to the support of this Association as provided in Article VII, and who shall have been elected by the Executive Committee."

It will be observed that that Article omits cities, towns and villages, and boards of supervisors, and this amendment is to insert "cities, towns, villages, and boards of supervisors, or which may desire to become members of this Association."

(President Hill called Mr. Clinton to the Chair.)

PRESIDENT HILL: Mr. Chairman, let me say just a word in furtherance of this amendment, because I am responsible to some extent (Mr. Gardner is not here), that in drafting the provision as to membership in this organization, I think it was an oversight on the part of the committee that provision was not specifically made for representation from the cities, villages, towns and boards of supervisors. It was an inadvertence in preparing the Constitution

that that was overlooked and I am very glad the committee thinks it advisable to amend the Constitution so as to permit such representation. It want to second the proposed amendment to the Constitution.

CHAIRMAN CLINTON: You have heard the proposed amendment. Are there any remarks? Those in favor of the adoption of the amendment to the Constitution and By-laws as presented will say aye; contrary, no. It is carried.

SENATOR GEORGE H. COBB: If it is in order, I now offer the report of the committee on nominations, a copy of which is in the possession of Mr. Reid, a member of the committee, and I will ask him to read the report.

MR. REID: Your Committee on Nominations ask to submit the following report: Officers for the ensuing year: For President, Hon. Henry W. Hill of Buffalo. (Applause.) For First Vice-President, Hon. John D. Kernan of Utica; for Second Vice-President, Henry A. Meyer of Brooklyn; for Third Vice-President, Hon. George H. Cobb of Watertown; for Treasurer, Olin J. Stephens of New York; for Secretary, Frank S. Ellsworth of Rochester. Your Executive Committee, the Hon. George O. Clinton of Buffalo as its Chairman. (Applause.)

MR. CLINTON: Mr. Secretary,—

MR. REID: Mr. Chairman, you will permit me to read the balance of the list and comment afterwards.

CHAIRMAN CLINTON: I will not do anything of the kind. I wish to say that I understand that Mr. George O. Clinton is not a member of this Association.

SENATOR COBB: Strike "O." out of the name.

CHAIRMAN CLINTON: My ancestry is English with an admixture of Irish blood. but the family never adopted the "O." Strike the "O" out and we will proceed.

MR. REID: With your permission the "O" is stricken out. I think that is the fault of the stenographer, anyway.

Executive Committee: Henry C. Allen, Syracuse; George F. Argetsinger, Rochester; Miles Ayrault, Tonawanda; Joseph H. Bailey, Patchogue, L. I.; Frank Brainard, New York; Celestin C. Burns, Watertown; Frederick W. Cameron, Albany; Maurice E. Connelly, New York; Patrick W. Cullinan, Oswego; E. A. Des Marets, College Point, New York City; E. W. Douglas, Troy; T. Harvey Ferris, Utica; Edwin A. Fisher, Rochester; Frank S. Gardner, New York; W. H. Gratwick, Buffalo; L. B. Greene, Patchogue, L. I.; Howard D. Hadley, Plattsburgh; James T. Hoile, Brooklyn; James T. Hutchings, Rochester; A. H. Jagers, New York; Louis Jaeger, Greenport, L. I.; William B. Jones, Albany; A. R. Kessinger, Rome; Nelson B. Killmer, Brooklyn; Richard M. McCann, New York; Robert J. McFarland, Brooklyn; S. Christy Mead, New York City; Edward F. Murray, Troy; John R. Myers, Rouses Point; Lewis Nixon, New York; Frank S. Oakes, Cattaraugus; Charles E. Reid, New York; William J. Roche, Troy; Robert H. Rogers, Schenectady; Samuel Sanders, Richmond Hill, L. I.; Thomas Spratt, Ogdensburgh; E. Platt Stratton, Flushing, L. I.; Edward R. Taylor, Penn Yan; Dell L. Tuttle, Buffalo; George W. Wilson, Brooklyn; Walter C. Witherbee, Port Henry; Edward N. McKinney, Albany.

SENATOR COBB: I move the adoption of the report.

MR. DES MARETS: As we are rather technical about names, kindly make that "e" an "a" with the French accent, as I am a descendant of French parents; I will be obliged to you and I thank the committee for the honor of being placed on that committee and I will promise my best efforts in their behalf.

CHAIRMAN CLINTON: I wish to say to the gentlemen present that my remarks in regard to my ancestry were made in an attempt at humor, but I am proud of my Irish ancestry as well as my English.

It is moved and seconded that the entire report be adopted. There is nothing in the By-laws which requires balloting. All those in favor of the adoption of the report, please say aye; contrary, no. It is carried.

SENATOR COBB: I offer the following resolution:

RESOLVED, That the President of this Association be and he hereby is authorized and empowered to name such additional members of the Executive Committee as he may deem wise.

Motion seconded and carried.

CHAIRMAN CLINTON: I think at this juncture that a committee should be appointed,—

MR. WILSON: I move that a committee of three be appointed to escort the newly-elected President to the Chair.

(Motion seconded.)

SENATOR COBB: If it is in order, may I ask that this motion be held pending a motion which I desire to make in reference to the place of our next meeting. I understand that the City of Albany has tendered to this Association a cordial invitation to hold its next annual meeting there, and unless there are some other gentlemen who desire to present the name of their city for this meeting, I will make a motion that the next annual meeting of this convention be held at the City of Albany at such time as the Executive Committee shall determine.

(Motion seconded.)

CHAIRMAN CLINTON: Are there any other invitations or suggestions as to the place of our next annual meeting? There being none, I will put the motion. All in favor please say aye; contrary, no. It is carried.

MR. McKINNEY: Thanking you in behalf of Albany for taking this action, I want to say that we cannot possibly surpass the charming hospitality which has been extended to this convention on behalf of the citizens of Watertown and the Chambers of Commerce in the Black River valley. I can only say we will endeavor to be as hospitable in Albany and give you as pleasant a time there next year.

CHAIRMAN CLINTON: The motion was put and carried before the gentleman spoke. I therefore declare it duly carried.

If we are to finish our business before the introduction of Senator Hill, our President. I think that some one should at this time extend our hearty thanks to Watertown, the Chamber of Commerce of Watertown and the Boards of Trade of Carthage and Sacketts Harbor, who have united with the Chamber of Commerce of Watertown in so hospitably and, I may say, luxuriously providing for our deliberations and for our pleasure. Being in the Chair I cannot make the motion, but I hope that some one will.

MR. TUTTLE: As one who knows what it means, having had something to do with the matter of the entertainment of the Association at Buffalo last year and who appreciates the tremendous amount of work and energy necessary to properly entertain an Association of this kind, I take pleasure in making the motion suggested by the President Pro Tem.

(Motion seconded.)

CHAIRMAN CLINTON: Gentlemen, this is the occasion for remarks. Are there any?

MR. AYRAULT: I don't know that much more can be said except to reiterate what has been said. I have attended two or three other meetings and I must say I shall always remember this one as the pleasantest.

MR. HADLEY: Coming from Champlain Valley on the eastern slope of the Adirondacks, on Lake Champlain, and Watertown being on the western slope, on Lake Ontario, one might think that at times the interests of the Champlain valley and Watertown people would not be identical, but I take great pleasure in saying it never happened since I knew anything about it if we tried to do anything over in the Champlain valley but what we could count on the united enthusiastic and efficient support of the people of Watertown and vicinity, at any and all times. I want to take this occasion to say that we appreciate it and we are ready now to turn in and show what we can do to help them over on this side.

CAPTAIN CLARK: Going a little deeper into history than most of you men have been able to do, I am going to say for Watertown, while my mother was born in Jefferson County, I have always had a high regard for its people with the exception of the cold-blooded attitude that * * * I can say that for the last ten years Watertown has had most everything. You can recall them all, even the Black River canal. Instead of Watertown it is going to be called the Garden of Eden. We have seen it to-day, so far as that, hanging on the slender thread of the improvement of the Black River canal. Look what God Almighty has done for you. He has built your canal and the people have been very lax and cold-blooded. I tell you, gentlemen, we are going to have this canal, and this convention has done more to enthuse me than any other convention I ever attended. I most heartily second the resolution.

MR. KILLMER: Coming from the extreme eastern end of the State and in my humble way attempting to secure from our locality a representation that would appreciate what Watertown has done, I want to say in behalf of those who came with us that it is hardly possible to find language to express our appreciation of what you have done for us, but you have given an object lesson so that we can go back and say,—and the result is going to count next year, because when we go back and tell the other twenty-five delegates who failed to come what they missed, and Albany has promised to do just as well as you have done, we are going to have with us next year at Albany fifty, instead of twenty-five. My mission here was to preach co-operation. I am thankful for the result as characterized by this convention. We have united our forces from the shores of the Atlantic to the shores of Ontario and we are going forward to success.

A DELEGATE: Knowing, as I do, the fact, the feeling that extends along the Black River valley, from Sacketts Harbor to West Carthage and beyond, I express the hope that if this convention ever comes back in later years that we will find the city and village lines of Carthage, Watertown and Sacketts Harbor obliterated and one prosperous city extending all the way from Sacketts Harbor to Carthage. (Applause.)

CHAIRMAN CLINTON: Are there any further remarks? I wish to say that the Chamber of Commerce of Watertown and the Boards of Trade of Carthage and Sacketts Harbor did not really appreciate the risk they run when they invited us here. It is easy enough to get us here, but it is a little hard for us to go away.

You have heard the resolution and having closed the debate, I will put the motion. All in favor of the adoption of the resolution will please say aye; contrary, no. It is unanimously carried. The delegates will please rise. It is unanimously carried by a rising vote. I will appoint, if there is no further business,—

MR. TUTTLE: Just a moment: In regard to the question of revenue the coming year, there is an easy way that we can all help and that is to increase our membership. Provision was made in the new Constitution and By-laws for membership in the Association and it is up to us to increase that membership and thereby increase our interest and financial revenue. It is an easy thing to do if each one will help a little. If Mr. Thompson will pardon me, I will repeat a little illustration I used last December before the Rivers and Harbors Congress.

Up at the ship-building plant a large vessel was to be launched. It was the style of merchant marine boats operated on the upper lakes. We will realize what it means when a launching is to be had and the ship does not go into the water as it ought to. That happened, and the foreman of the yard, who had charge of the matter, thought everything was ready and he gave the word for the last cutting of timber that holds the bolts. For the benefit of our friends from the coast, where they launch their boats stern first, we launch them sideways. The ship did not go in and the general foreman of the yard run down and put up his hands to push. They laughed at him. Well, he says, I can push a pound anyhow, and he put his hands on anyhow and just then in she went, and he says, "There, didn't I tell you so?" That is the kind of sentiment we want in this Association, if you are going to be more fruitful. Let us go out and push; and if you do, you can say to those interested in this Association, "There, didn't I tell you?"

CHAIRMAN CLINTON: Perhaps, I may be excused for adding to what Mr. Tuttle has already said, some facts, and one or two of my beliefs. The Canal Union, a union of the commercial bodies of the State, the canal conference and the canal terminal conference, I think they have done noble work, but their work is about ended. There will be probably within a year no one Association or body left to care for the waterways and conservation interests of the State by deliberation, resolutions, activity and advice, except the New York State Waterways Association, and I hope that this Association will be perpetuated. Its beneficent action is not for one year but will be required for the best interests of the State and of its people for many years to come. This cannot be done unless some substantial provision is made for finances to take care of its existence. I have not the exact figures, but I do not believe that at this moment we have more than about \$190. One of the most important things in the work that we do is the publication of these excellent addresses. That occasions a very large expense. There is an amount of office work which has been faithfully done by our President in his office, at an expense to himself in his valuable time and in that of his office force, for which he asks no compensation whatever and which ought not to be imposed upon the President. It ought to be imposed upon the Secretary and the Secretary should be paid for his services. There is a vast deal of printing to be done besides, in the way of notices and the like, and I think the remarks of Mr. Tuttle are extremely pertinent. The Association cannot live; it will fall into a condition, if I may borrow a phrase that once was going from mouth to mouth, coming from one of our deceased Presidents, of innocuous desuetude, something to be absolutely deplored.

MR. DES MARETS: This is the first time that I have ever had the privilege of attending a convention of the Waterways Association of the State of New York. I am here as one of the contingent from Long Island. We thank you heartily for the attentions which you have given to Long Island. We are impressed with your local affairs and your desire in having the Black River extended and brought to a happy consummation. We are heartily with you. We thank you again for having turned your attention to Long Island. It is embodied in your resolutions. Long Island guards your southern point of land. Washed by the Atlantic Ocean it protects you on one side, and on the Long Island Sound it protects you from the Nutmeg State of Connecticut, and I call attention to the fact that when you reach out to Montauk Point, which is the first point in the State of New York that the sun rises upon and kisses it with its blush of health and growth and then extends from it to all the

other portions of New York State and reaching up to the uttermost parts of the State. Long Island is an emerald gem set in a sea of pearl: It has a water front of something over three hundred miles, with bays and indentations without number. What we have asked you for and which you have considered, we thank you for, and we want you to keep on remembering that Long Island is on the map of the State of New York. We ask your continued interest. (Applause.)

MR. HOILE: Mr. President, in the use of the term, "innocuous desuetude," I may plead guilty to no such fear as may be entertained by others of this convention. This organization, as you will remember, was born in hope in the village of Brooklyn. It was organized with the idea of being perpetuated and the organization which set forth the effort to place this organization in the field is prepared to guarantee its life, (Applause), the Manufacturers' Association of New York. I may be pardoned if I enter into the history in connection with this organization and the cause of its being launched. Observations in the City of Washington clearly demonstrated to practical men that nothing came of holding your finger in your mouth and, as I have said before on this floor, we may offer preambles and resolutions, but it takes money to build canals. Federal appropriations and others come from official authority and as a matter of fact it must be demonstrated that there is necessity; it must be illustrated that there is ample publicity and behind it all there must be activity, and last and not least it takes money to make the mare go. All these things were duly considered when this Association was established and Mr. Clinton, Mr. Hill and Mr. Cullinan, the first President, Mr. McFarland, will all admit that we members of the executive committee responded to the personal call and that is all irregular and at least one of the members of the executive committee has tried to impress upon this organization from its birth that there must be business done in a businesslike way. We none of us want to contribute more than our fair share and we don't want anybody else to contribute more than we do. It is an utter impossibility to do business except in a businesslike way. I will guarantee that the organizations of the State of New York have not been systematically worked in a businesslike way, communicated with; had they been, we would have had more money; but let it be understood from this minute that whoever may be acting as Secretary and President, that they communicate with the organizations of this State and say to them just what the purposes are of this organization, and what the needs of this organization are, and I will guarantee you that the Empire State as a people will wake up as in the case that was given here in regard to these Canadian friends. Necessity will wake them up if nothing else will. I beg of you not to have lack of faith. The Empire State is all right, and this organization is all right. If we have not got men enough and brains enough, then let us get out of business. I do not believe we lack in those qualities. (Applause.)

CHAIRMAN CLINTON: Mr. Hill, the suggestion that the Secretary be paid involves the carrying out of the very ideas you have advanced.

MR. HOILE: If I may be permitted to go further,—

CHAIRMAN CLINTON: A very little further.

MR. HOILE: The National Rivers and Harbors Congress,—I fortunately have been accused for my commercial enterprise and pluck, pride so to speak in the Borough of Brooklyn and New York, and the organization which it is my pride to be connected with has been identified with all organizations, national, international, state and interstate; anything that is good for the country or for the State or for ourselves, we try to help along. When it comes down to the Mississippi Valley, why it is every man for himself and the devil for us all, and the man that don't look out for his family, the good book tells us, is himself worse than a heathen. In this hurrah for the Mississippi Valley combinations have been framed up against the State of New York through jealousy

or for other reasons. Now, we get from the National Rivers and Harbors Congress,—the attitude down there we have nothing to complain of in the National Rivers and Harbors Congress, but we found by observation that the great State of New York is but a little mark on the map when you get into the national game. Then we furthermore observed when it comes down to the question of the Atlantic Deeper Waterways, with which we are also identified, we found that Connecticut comes in with its combination with Pennsylvania and Massachusetts, Boston, and with Providence and so forth, but New York don't get an awful lot. In the minds of those who assembled the forces of New York State, it was to have New York State look out for itself and it having sufficient money to run an organization, it is the purpose of that organization to put into effect or combine together our Congressmen, combining together our Legislatures of the State, combining together all the local officials, and as one man to go to the front and produce results. You can do that by raising money. You have got to bring out the money to run your organization, while enough sentiment would make your public officials what is wanted.

CHAIRMAN CLINTON: You do not believe in lax work.

MR. HOILE: I believe in keeping my powder dry and talking for all I am worth.

MR. HUTCHINGS: I have one suggestion to make: We have an admirable Constitution and we have the plans to take care of it, and I have found that no one is directly interested in any project unless they put something into it. We have something over a hundred of us, very nearly that all told, who have come here to this convention. There is no reason why every one of us should not bring in ten members into this Association. If we do that, it would mean,—I mean each of us, that would be a thousand more members. If we did that, there would be no trouble in our printing the proceedings of the convention and the papers and having this information where it would do the most good. If we get these ten people, each one of us, to put up two dollars or more, at least two dollars, then they feel they have a financial interest in the Association, if it is only two dollars, and they will have an interest and we will have a larger convention at the next meeting and a larger interest. We want the interest not only of Watertown, Buffalo and New York, but you want the interest of every community, and the way to get it is to get personal interest. If every one of us will see that we get in ten members, there won't be any trouble in having a paid secretary, no trouble in printing the proceedings, and when we get to the convention there will be men enough if we need to raise a little more money we can raise it. Let us not put too much up to the Secretary and President alone. The Lord knows, he has done the best he could. No man could do more. But he wants every one of us to come along and help him and we can do it.

MR. CAMERON: I think we ought not to adjourn before we offer a vote of thanks to the President for his distinguished efforts in behalf of the Association.

(Motion seconded.)

CHAIRMAN CLINTON: I wish to say, hardly any of us appreciate the diligence, the ability and the self-sacrifice that Senator Hill has put into his work for the benefit of this Association. I know something about it because I have been in contact with him. A good many of us here are heartily interested in these movements, but I very much doubt whether you will find a man among us who would be willing to sacrifice his time and business and devote his efforts to the extent that Senator Hill has. We will take a rising vote upon the motion. All in favor will say aye. Be seated, please. It is unanimously carried by a rising vote.

I will appoint upon the committee to escort our President-elect to the Chair, Mr. Wilson and Senator Cobb.

(The committee escorted Senator Hill to the Chair.) (Applause.)

CHAIRMAN CLINTON: Senator Hill, I wish to extend through you to the Association my appreciation of the honor of re-election as its President and to convey my personal regards to the members for their continued confidence in me to administer its affairs. (Applause.)

PRESIDENT HILL: Mr. Clinton and Gentlemen of the Convention: I have become so deeply interested in your work that I have reluctantly consented to accept the position for another year. I have done the best I could and only with the hope, that we may have the assistance and co-operation as I have had of so many of you, would I feel it possible to accept the position for another year.

Some years ago our common friend, Mr. Clinton, persuaded me to undertake in a small way, under his direction and advice, some of the problems confronting this great State with reference to transportation matters. It was not an inviting field to engage in at that time; the prospects were not as promising as they are to-day. The State of New York was then not aroused in waterway matters as it is now. The cities, towns and villages were divided; friends in public life were opposed to our activities, and it seemed as though it were a task so far beyond accomplishment that we were sometimes dispirited in our work; but I never saw a time that I could not go to Mr. Clinton and get light and encouragement and the best advice. I have seen times in public life when there were not half a dozen members of my party that were willing to declare themselves in support of the questions which we thought, as Mr. Thompson has so well said, so far transcended every other public question that they ought to appeal to all rational men in this State as worthy of the intelligent activity and interest greater than those of any other questions that were to be considered. I have had all kinds of experiences in this direction and what experiences I have had Mr. Clinton had before me in public life, when he was a member of the Legislature. But we felt that the time would come when the education of the people on these great questions would be such that they would look upon these matters entirely differently from what they had been doing before. We have lived to see a result to-day, that which is most gratifying and most beneficial to all the people of the State. Mr. Hoile has referred very correctly to the impetus given this organization at the time of its inception by the Manufacturers and Traders' Association in the City of Brooklyn, when a large number of friends gathered there interested in consolidating the commercial bodies of this State, its cities, towns and villages in a representative way in this great improvement. From that time it has gone on increasingly in its strength and I believe in its activities. The first year Mr. Robert J. McFarland, of Brooklyn, worked as zealously as any man could to build up this organization. It was then a new born institution. He was succeeded by that able and courageous and uncompromising friend of waterways, Judge Patrick W. Cullinan, of Oswego,—and let me say that I know from experience on the Executive Committee that Judge Cullinan and others associated with him had some of the gravest questions confronting them and no man displayed greater ability or greater loyalty to the State than has Judge Cullinan from the inception of this organization to the present hour when he submitted as Chairman of the Committee on Resolutions its important report. (Applause.)

Allusion has been made to what this organization may do and I know that you are interested so deeply in its activities that you will give it your active, earnest and intelligent support. I welcome any suggestions that may come from you in the line of promoting its efficiency. We hope to take a State-wide view of the matters that have been presented during the sessions of this Convention and look with favor upon the improvements of the waterways of Long Island as well as those of Jefferson county. The commercial interests of the State are more or less dependent upon the activities of the people in all sections. It is the purpose of this organization to consider and favor such State-wide interests in all reasonable ways and thus to promote the general welfare of all the people. (Applause.)

I hope that we may increase our membership and that we may have funds adequate to meet necessary expenses and carry on its activities. The time now is when State and other officers ought to feel the pressing importance of such

public and *quasi*-public problems as we have been considering and the benefits arising from such convention as this. (Applause.)

CAPTAIN CLARK: Senator Brown,—

PRESIDENT HILL: Senator Brown is a very distinguished gentleman of this county and like many others I think Senator Brown will appreciate the time has come now when we may all champion these measures with zeal and fidelity to our localities and certainly with great benefit to the people of the entire State. Senator Brown was not alone in his opposition. I have seen the strongest men in this State who were opposed to us in 1903 take the floor and advocate in the most zealous manner waterway projects. There has been an evolution going on in the public mind. Let us forgive and forget any man, whoever he may be, who will rally to the support of the predominant and transcendent interests of the Empire State. (Applause.)

Gentlemen, we are now to close the sessions of this convention. I want to express to the Committee on Resolutions my personal and greatest appreciation for what they have done. No one can tell what it means to sift resolutions and deduce from them a coherent, logical and conscientious report such as was produced to-day except as he has served on that committee. I want also to extend my thanks to the members of other committees, to the assistance of other committees of the convention. It has been a splendid demonstration of the intelligent, patriotic sentiment of the people of the various localities of the entire State. It is a demonstration, the like of which we have not had before in any of our conventions. And our friend, who comes from France, let me say to you that M. Freycinet, one of the most progressive French citizens of the last century, did as much to inspire us in America as any other man. He projected that magnificent system of French waterways which involved an expenditure of one milliard francs.

MR. DES MARETS: I thank you.

PRESIDENT HILL: We welcome you to our midst, and we welcome others, and we ask all to consider, as Mr. Parker has so well said, the importance of this improvement to this State. It means more than tariffs or the ascendancy of any party because it affects the interests of every living being in the entire State, in as much as cost of commodities must be made up on a basis of the cost of transportation. (Applause.)

Now, gentlemen, I thank you, one and all, for your most cordial and gracious support, assistance and advice and may I ask for these in the future?

MR. CULLINAN: Mr. President, it is getting late and we must adjourn soon. I would like to ask, Mr. Chairman, if anything has been done toward having a representative upon the program of the National River and Harbor Congress, presenting the claims of the State of New York to the recognition of the National Government. Has there been anything done in this convention?

PRESIDENT HILL: There has been nothing.

MR. CULLINAN: I move the President of this convention get into immediate communication with the committee having the preparation of the next program of the National Rivers and Harbors Congress at Washington, in the first week in December of this year, for representation upon that program of one who shall present to that convention the claims of the State of New York for national appropriation in the improvement of the rivers, harbors and inland waterways of this State, under the jurisdiction of the National Government, and whose improvement can only be assured and undertaken by the National Government. (Applause.)

(Motion seconded.)

MR. REID: I rise to second the motion of Judge Cullinan and in doing so I am sure the Secretary of the Rivers and Harbors Congress is here and will certainly take recognition of our resolution.

PRESIDENT HILL: As many as are in favor of the motion of Judge Cullinan, manifest it by saying aye; contrary minded, no. It seems to be carried.

MR. DES MARETS: I would like to rise to the question of privilege. I do not wish to have an erroneous impression made upon this Association. When I spoke of France, I spoke as being a descendant of French parents. I am proud of my ancestry. I do not know anything against it. I should hope I never will. I was born in Louisiana and I fought in the Union army for a while. (Applause.) And although I am proud of my ancestry and of France, the republics of to-day are sister republics on the other side of the water, I am prouder still to be an American citizen and having helped to maintain that flag. (Applause.)

MR. WILSON: I want information. Has any action been taken requesting the Governor of the State of New York to appoint the usual list of delegates to the Rivers and Harbors Congress?

PRESIDENT HILL: No, the resolution of Judge Cullinan covered that.

MR. WILSON: In harmony with what has been said this afternoon, I move you that the President of this Association be empowered to appoint such committees as he may deem necessary in each city, town and hamlet of this State for the purpose of furthering the financial support of this organization.

(Motion seconded.)

MR. TUTTLE: I was seeking recognition to bring up something of the same kind. I think Mr. Hutchings' idea was a little too comprehensive. If we have everybody trying to do something, we are liable to fall short. If we could get it into small committees or at least one member in each locality, I believe we ought to have a small central committee, not over three or five, who could get together with reasonable convenience, that will take hold of the matter and put it through.

MR. WILSON: Drop out the word financial.

PRESIDENT HILL: You have heard the motion made by Mr. Wilson, of Brooklyn, and seconded. All in favor manifest it by saying aye; contrary, no.

MR. WILSON: The word financial was withdrawn.

PRESIDENT HILL: It is carried.

MR. STRATTON: It was my pleasure to be in the company of some gentlemen that met together last evening to consider this matter of the finances of the Association. I have listened to much talk on the subject and I think what we want is concentration of interests on the financial problem of this organization, and I think each gentleman should constitute himself as a committee of one and if possible increase our membership and increase the subscriptions to the purpose of this organization, and there are many organizations in my opinion in the State which will contribute liberally, and I propose, with the sanction of the treasurer, to constitute myself a committee of one to obtain such subscriptions as far as possible in the metropolis. I think if we all address ourselves to this subject persistently and make the interests of this organization and the influence which it possesses upon the commerce of this State, I think we will have no trouble whatever in obtaining the point which we all desire.

PRESIDENT HILL: I am very glad that Mr. Stratton has made the suggestion and these matters will all be taken into consideration at the first meeting of our committee. Let us have order. We have had this afternoon a very charming and powerful address from the Secretary of the National Rivers and Harbors Congress. He, at our request, is here as our guest. I think he would be glad to make an announcement. (Applause.)

MR. THOMPSON: I merely crave the privilege of calling your attention officially to this convention in Washington, which will be on Wednesday, Thursday and Friday, the 4th, 5th and 6th of December, and I certainly hope that your organization will be in such condition that you can send us down a strong forceful delegation. We believe that we have a work to do in carrying out a proper policy and simply carrying on a campaign of education over the whole United States, which while it does not specify and name the work, that it improve any particular river or harbor, but the putting of a solid foundation under that work of improvement of every meritorious harbor. We shall hope to welcome a very large delegation from this Association and the State of New York at the convention in December.

MR. CLINTON: I move we adjourn.

MR. REID: Before adjournment, will you permit me to state that Watertown has come forward with seventeen new members, and Mr. Burns, of Watertown, has told me they will double that before a month is over their heads.

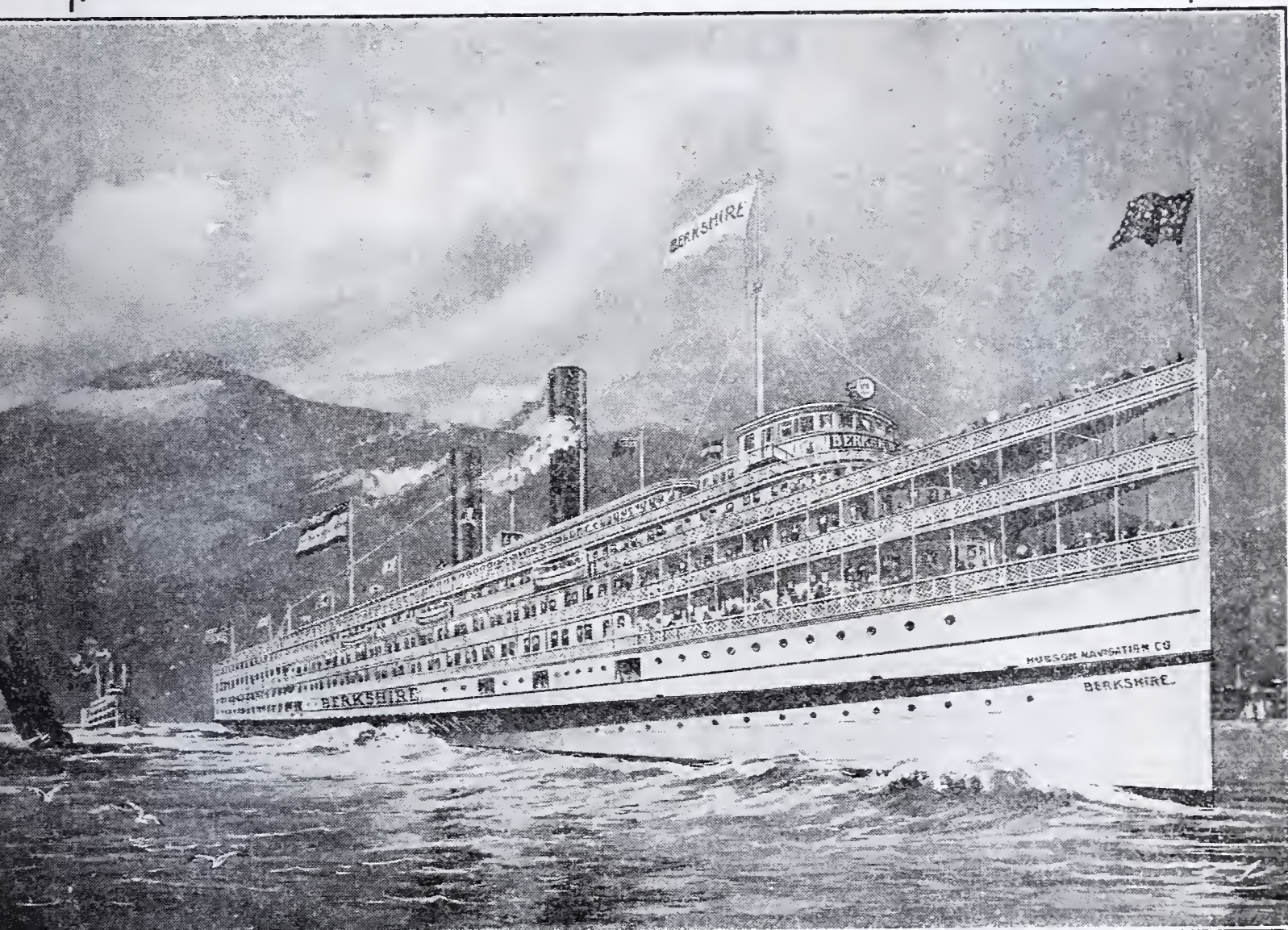
PRESIDENT HILL: Mr. Clinton has made a motion to adjourn. The motion must be entertained. All in favor say aye; contrary minded, no. So ordered.

The Third Annual Convention of the New York State Waterways Association is adjourned without date.

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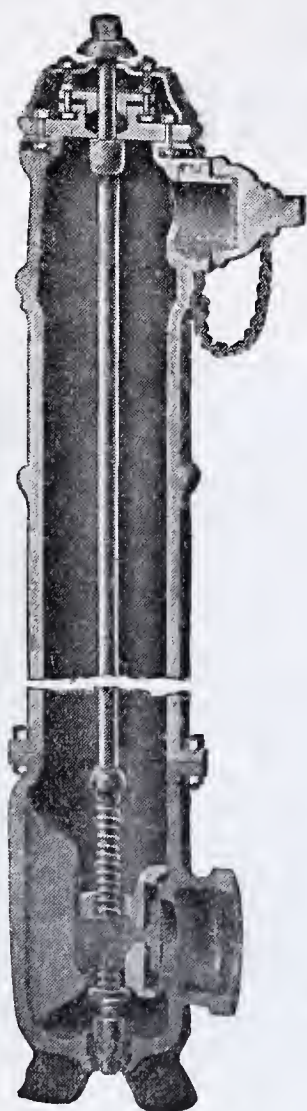
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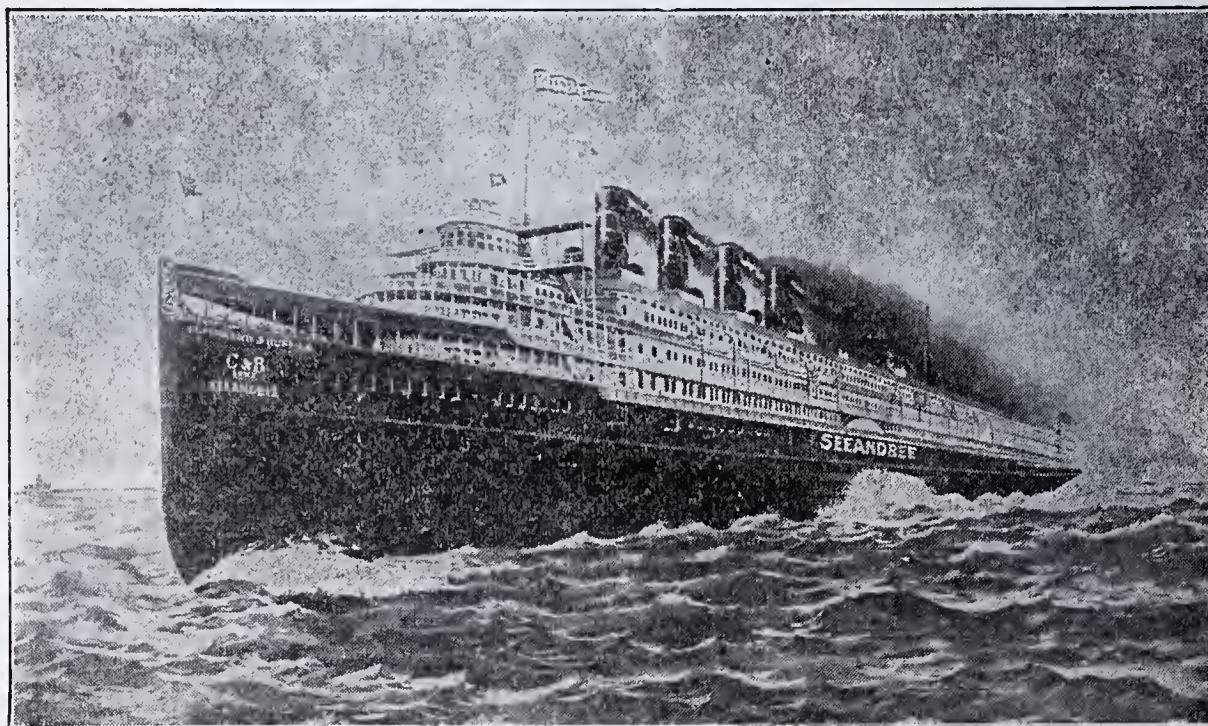
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